DISEASES OF THE RECTUM

CURLING.

OBSERVATIONS

ON THE

DISEASES OF THE RECTUM.

BY

T. B. CURLING, F.R.S.

SURGEON TO, AND LECTURER ON SURGERY AT, THE LONDON HOSPITAL,

ETC.

SECOND EDITION, REVISED AND ENLARGED.

LONDON:
JOHN CHURCHILL, NEW BURLINGTON STREET.
1855.

B

LONDON:
GILBERT AND RIVINGTON, PRINTERS,
ST. JOHN'S SQUARE.

PREFACE

TO THE FIRST EDITION.

In the following pages, I have endeavoured to give a concise account of the changes that take place in the structure of the rectum, and of the symptoms and treatment of its diseases. Although the subject has been much and ably written on, I have been assured that such a work, founded upon adequate observation, and including modern improvements in treatment, would be acceptable to the younger members of the profession. That there will be found many deficiencies, I am fully aware; indeed, a complete treatise has not been attempted, but it has rather been my object to offer such views of pathology as may lead to judicious practice. Should I be so far successful, or have in any degree aided in the promotion of surgical knowledge, I shall be sufficiently rewarded for the pains bestowed in preparing these observations.

London, *April*, 1851.

PREFACE

TO THE SECOND EDITION.

THE first edition of this work having been out of print for nearly a year, and another having been called for, I have endeavoured, in preparing the present one, to make such amendments and improvements in it as continued attention to the Diseases of the Rectum, and larger experience in the treatment of them, have enabled me. I have also added a Chapter on a common affection of the part.

39, GROSVENOR STREET,
April, 1855.

CONTENTS.

CHAPTER I.

INTRODUCTORY OBSERVATIONS ON DISEASES OF THE RECTUM.

CHAPTER II.

IRRITABLE ULCER OF THE RECTUM.

CHAPTER III.

IRRITABLE SPHINCTER MUSCLE.

CHAPTER IV.

HÆMORRHOIDS.

CHAPTER V.

PROLAPSUS OF THE RECTUM.

CHAPTER VI.

POLYPUS OF THE RECTUM.

CHAPTER VII.

FISTULA IN ANO.

CHAPTER VIII.

CHRONIC ULCERATION OF THE RECTUM.

CHAPTER IX.

STRICTURE OF THE RECTUM.

CHAPTER X.

CANCER OF THE RECTUM.

CHAPTER XI.

FÆCES IMPACTED IN THE RECTUM.

CHAPTER XII.

ANAL TUMOURS AND EXCRESCENCES.

CHAPTER XIII.

PRURIGO PODICIS.

ON

DISEASES OF THE RECTUM.

CHAPTER I.

INTRODUCTORY OBSERVATIONS.

THE terminal portion of the alimentary canal—the rectum—is subject to numerous and varied derangements, dependent upon its structure, its peculiar office in the economy, and its relation to the important parts in its vicinity. As a class of diseases, those of the rectum are as common as any to which the human body is liable; and they give rise to sufferings, in many instances, not only severe, but also often accompanied with depression of spirits, and an anxiety of mind, out of all proportion to the gravity of the disorders. Many of these diseases spring from habits prejudicial to health, engendered by sedentary pursuits, or consequent on indulgence in the luxuries of civilized life. They are, therefore, found to be most prevalent in the middle and upper classes of society. With a

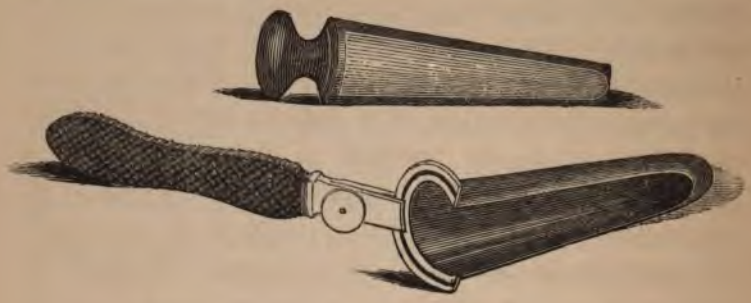
few exceptions, there are no diseases which yield more readily and effectually to careful management and surgical treatment, or which in their results afford greater satisfaction to the practitioner.

In the treatment of these diseases it is, in most cases, important that an early and careful examination should be made of the part affected. By neglect of this precaution, serious disorders, which, if detected in time, would yield easily to treatment, are allowed to make progress, and to become difficult of cure. In females, the delicacy of the sex too frequently leads to concealment of these complaints, and raises obstacles to an inspection of the seat of them. The chief information is to be gained by a tactile examination. We can discover in this way contractions in the passage, as well as tumours and excrescences; and by the practised finger ulcers may be detected, and their size and situation accurately ascertained. The examination should always be made with gentleness. This caution is especially required when the sphincter is irritable. Let the surgeon, in introducing his finger, well greased, proceed slowly, stopping at times until the sphincter becomes quiet and accustomed to its presence. The muscle will then yield, and allow the finger to pass on without pain. A rough attempt to penetrate excites resistance from the muscle and spasm, and the passage of the finger then occasions considerable suffering and after-distress.

The examination of the parts diseased, as well as the performance of certain operations, may in many instances be considerably aided by the use of a speculum. They are made of various kinds, some of them ill adapted for the object in view. Thus, many of the dilators are of little use in consequence of the bulgings

of the mucous coat of the bowel between the narrow blades of the instrument. There is an old-fashioned but serviceable instrument, consisting of a longitudinal section of a steel tube, with one extremity closed, which has long been employed at the London Hospital in examining these diseases, and which is well adapted for protecting the bowel, and finger of the surgeon, in operations for fistula. A blunt gorget has sometimes been used for the same purpose. Mr. Hilton contrived a plated speculum, with the end closed, and an aperture at the side into which a moveable piece slides. I have often used it, but have found the side opening too narrow to afford a complete view of an ulcer or pile of any size; and in consequence of the aperture not being carried to the extremity, fæces are liable to lodge there and prove troublesome to remove in protracted examinations, as in searching for the inner orifice of a fistula. I therefore employ a plated speculum of a conical form, so as readily to penetrate the sphincter, with the side opening of sufficient width, and carried to the blind extremity of the instrument: and instead, also, of a moveable piece, I have substituted a metal plug, which fits close into the aperture. The edges of the opening are made thick and rounded to prevent injury in the withdrawal of the speculum. The sphincter closely embraces the instrument, and when the edges of the opening are sharp, as in the ordinary speculum, they scrape the mucous membrane and produce bleeding and soreness. The handle of the speculum traverses the rim in a groove, but admits of being firmly fixed at any point by a screw. This is of advantage in enabling the surgeon to place the handle out of his way, and where it can be most conveniently held by the assistant or

patient. The subjoined engraving shows the improved speculum reduced in size about one-half [1].



In the application of remedies to the interior of the rectum, the common glass reflecting speculum, coated with caoutchouc and an open end, will often be found useful. Leeches may be applied to the mucous membrane of the bowel by means of a glass speculum with a small side opening near the closed extremity. Before using any of these instruments, the rectum should be well cleansed by an injection of warm water.

In the treatment of diseases of the rectum chloroform is a valuable auxiliary. In making examinations I have derived the greatest assistance and advantage from it. Under its influence the irritable sphincter relaxes, and a complete view can be had of the seat of disease in cases where pain and spasm would otherwise offer almost insuperable obstacles to a satisfactory exploration. And, in operations more painful than serious, the use of this remedy has not only facilitated their performance, but saved the patient considerable suffering and distress.

[1] This instrument is an improvement on the one described and figured in the first edition of this work. It can be had at Ferguson's, in Giltspur Street, and Weiss', in the Strand.

It may seem superfluous to remark, that no operation, even of a trivial character, should be performed on the anus or rectum without due inquiry into the state of the patient's general health. I have heard of diffuse inflammation of a fatal character arising after the removal of a small excrescence from the anus, and after the division of a fistula; and of phlebitis occurring from the removal of hæmorrhoids; and although all operations are more or less liable to ill consequences, they very rarely happen except where the precaution alluded to is neglected. No prudent surgeon would undertake an operation on these parts in a person with a broken-down constitution, or with organic disease of the lungs or liver, or with albuminous urine; but with ordinary caution in the selection of cases, and with common care in performing the operations necessary, and in conducting the after-treatment, they are as successful and satisfactory as any belonging to surgery.

CHAPTER II.

IRRITABLE ULCER OF THE RECTUM.

The mucous membrane of the lower part of the rectum is arranged in longitudinal folds, which disappear in the expanded state of the bowel. These folds terminate below at the external sphincter. Just within this structure, and between the folds, the mucous membrane is slightly dilated, variously in different subjects, but in many to such an extent as to form small sacs or pouches. Besides these folds, and in the spaces

between them, there is a series of short projecting columnar processes, about three-eighths of an inch in length, separated by furrows or sinuses, more or less deep, which are arranged around the lowest part of the rectum. These various folds, though no doubt well developed in the living state, are not always obvious after death, unless the vessels are congested. They are rendered distinct by injections with coloured size, both in the adult and in the fœtus. Now in the evacuation of the rectum, foreign bodies or little masses of hardened fæces are liable to be caught or detained in the pouches just described. And it is in these little sinuses, thus exposed to irritation and abrasion, that a superficial circumscribed ulcer is occasionally formed. On examining the ulcer, without distending the rectum, the lateral edges only being presented to view, the breach of surface has the appearance of a *fissure*,—the term commonly given, but improperly, to this sore, which is obviously more than a mere cleft or rent in the mucous membrane of the bowel. Such an ulcer may occur in any part of the lower circumference of the rectum, but it is very generally found at the back part, towards the coccyx. It is quite superficial, and, though sometimes circular, is more usually of an oval shape; its long axis being longitudinal, and its lower extremity extending within the circle of the internal sphincter. On tactile examination, the breach in the mucous surface and the extent of the ulcer can be easily distinguished by a practised finger, especially when the edges are, as is often the case, somewhat indurated. With the speculum the longitudinal folds being stretched out, the ulcer can be fully exposed, and it is then clearly seen not to be a mere fissure, but a superficial sore, which may extend beyond the edges

of the opening in a common-sized speculum. The surface is of a brighter red than the surrounding membrane, and has the usual indented appearance of an ulcer.

The amount of suffering produced by this superficial ulcer varies a good deal, but the sore is generally extremely sensitive, and occasions severe distress. It is so situated that the fæces, in their passage outwards, rub over its surface, and the painful contact excites spasm of the sphincter muscle, causing a sharp burning pain, and often a forcing sensation, which lasts for two or three hours, the distress being usually greater after defecation than during the act, and in some instances an interval varying from five minutes to ten or more elapses between the evacuation and the occurrence of pain. The pain is sometimes so acute that patients resist the desire to pass their motions, and allow the bowels to become costive, in dread of the sufferings brought on by evacuating them. In one case which came under my care, the intensity of suffering had led the patient, a young gentleman, to adopt the dangerous course of inhaling chloroform whilst sitting on the close stool, and he could not be persuaded to go to the closet without this remedy. The pain though much increased during, and for some time after defecation, is in many cases constant—the patient never being free from a sharp lancinating pain, which disturbs rest, depresses the spirits, and renders the sufferer truly miserable. The least pressure at the anus gives uneasiness, so that the patient is obliged to avoid sitting, and either to rest on one hip or to lie down. He will sometimes place his finger on a spot outside the anus which exactly corresponds with the seat of the ulcer internally. The pains occasion-

ally assume a neuralgic character, and are described as shooting up the back, down the limbs, or along the urethra. The irritation may extend to the bladder, producing painful micturition. The stools are sometimes streaked with blood.

In comparison with many other diseases of the rectum, the irritable ulcer is not a common affection. The removal of hæmorrhoids, and the division of a fistula, may be performed with little risk of the sore consequent on the operation assuming the characters of the irritable ulcer. There are, however, exceptions. One of the most painful ulcers I have had to treat occurred, I was informed, after the excision of a small pile. In another case, in which I removed a large pile by ligature, the patient, a gentleman, neglected my injunction to keep at rest afterwards. He returned too soon to active business, and an irritable sore in the rectum was the consequence.

The irritable ulcer occurs usually in middle life, and is more frequent in women than in men. It is met with as often in single as in married women; and in persons of an hysterical temperament there are occasionally pains of so anomalous a character as sometimes to mislead the practitioner. Indeed, it is surprising how often this sore is overlooked even in common cases. Tactile examination is not always sufficient, for the sore is sometimes so superficial as not to be detected except by the most sensitive and practised finger. In all instances, therefore, of painful defecation for which the surgeon is unable to account, the rectum should be carefully examined with the speculum.

On the attempt to separate the margins of the anus, or to dilate the sphincter to get a view of the ulcer, or

even to introduce the finger, spasm, with an aggravation of pain, is, in most cases, immediately excited; and the orifice becomes strongly contracted and forcibly drawn in. When this is the case, it is better to desist, and to get an assistant to administer chloroform. As soon as the system is under its influence, the sphincter yields completely, and the surgeon is able to make a satisfactory exploration of the part, and to ascertain the exact seat, character, and extent of the ulcer. In those cases in which there is little or no spasm of the sphincter, or when the muscle is relaxed under chloroform, the surgeon may dilate the anus with his two fore-fingers, so as to get a tolerably good view of the sore. A better examination, however, may be made by the use of the speculum.

This ulcer seldom heals under the influence of local applications. The treatment necessary is a longitudinal incision through its centre, including the superficial fibres of the sphincter muscle. The object of the operation is to place this muscle at rest for a time, and to enlarge the passage and displace the sore; thus removing those sources of irritation which prevent its healing. An incision, it is true, is not invariably required; but in all cases in which the pain is considerable, and in which there is much spasm of the sphincter, the attempt to procure the healing of the sore by local applications so often protracts the patient's sufferings, and so constantly ends in failure, that it is not desirable to make it.

The operation which I formerly practised, was a pretty free division of the fibres of the sphincter muscle, the operation then commonly performed, and still considered necessary by many surgeons. But having been informed, some years ago, that Mr. Copland

was accustomed to cure rectal ulcers by a simpler and less severe operation than the one generally practised, I sought an interview with that gentleman, who stated that he treated these cases by an incision so slight that it was almost bloodless. Since that period I have been content to make only a simple superficial incision of the part, to perform, in fact, a slighter operation than the one I previously practised. Mr. Copland, in describing his operation, spoke of it as merely a division of the mucous membrane. I am convinced that on this point he is in error; at any rate that this is not sufficient; and that however slight and superficial the incision may be, a few, at least, of the fibres of the sphincter must be divided. I had occasion to examine the rectum of a lady suffering from this affection, whilst she was under the influence of chloroform, and the parts being very lax, and in a good light, I was able to bring the ulcer well into view, and could distinctly perceive the fibres of the sphincter forming the bottom of the sore. Now, it is clear, that in such a case, or in an ulcer which has destroyed the mucous surface, an incision through the base of the sore must reach and divide muscular fibres.

In the evening before the operation, an aperient should be given, in order that the bowels may remain at rest for a day or two after the incision. The patient should be placed on the left side, with the nates projecting a little over the edge of the bed, and opposite a good light, and with the thighs bent. Chloroform can then be administered. The division of the ulcer may be performed in two ways; by an incision from within, or from without the rectum. In the latter mode, a sharp-pointed bistoury is carried through the base of the ulcer, and the parts are

divided by an incision from without inwards through the centre of the sore. A speculum must be previously introduced, to protect the opposite walls of the bowels from the point and edge of the bistoury. I prefer the operation from within outwards, which may be easily, and, indeed, more conveniently performed without the speculum. The cutting edge of a straight blunt-pointed bistoury is to be applied to the centre of the ulcer, which is to be divided by a slight superficial incision. It is important to divide the fibres of the muscle at the extremity of the ulcer near the verge of the anus rather more freely than those above, so as to avoid any ridge or shelf on which the fæces would lodge. With this precaution the after-treatment becomes very simple. A small piece of greased lint may be lodged in the wound, at first to check bleeding, and afterwards the parts may be left pretty well to themselves. I have never been troubled with hæmorrhage, but if any vessel be seen pumping out blood, it may be seized and tied. I usually order a full dose of laudanum in chalk mixture and cinnamon water, to be taken shortly after the operation. In two days a mild aperient may be given, and repeated when necessary, to prevent costiveness and keep the motions somewhat soft.

The effect of the operation is remarkable. It at once relieves the severe symptoms, the pain experienced afterwards being merely the sore of the wound, and rarely fails to secure the healing of the ulcer in the course of two or three weeks. The progress of the sore must, however, be watched until the surgeon is satisfied by an examination that the part is quite healed; for I have known of disappointment ensuing, and the painful symptoms returning, after the case

had been given up under the supposition that the patient was cured. He should keep the recumbent posture. He need not remain in bed: rest on a couch is sufficient. If the healing of the ulcer proceed slowly, it may be touched with a camel's-hair pencil dipped in a solution of the nitrate of silver (gr. x. to ℥j.), or occasionally smeared over with some mild stimulating ointment. I sometimes use the following application:—℞ Liquoris Plumbi Diacetatis, ℥j; Confectionis Rosæ ℥j. M.; this is spread on a piece of fine lint, which is to be dipped in sweet oil previous to use. In an examination to ascertain if the sore is healed, it is better not to employ the speculum, which is liable to stretch the parts too much and to break the frail cicatrix. If a piece of lint, after being lodged in the part for a few hours, has no yellow stain; if no abrasion can be detected in a tactile examination, and the patient is quite free from soreness after stool, we may be sure the part is quite sound.

Patients will not always submit to the division of the sphincter without a previous trial of other means; and where there is not much spasm, and but little suffering, the cure of the sore may often be obtained without it. The patient should remain at rest in the recumbent posture, and should take some mild aperient medicine to ensure soft evacuations. The ulcer may be brushed over occasionally with a strong solution of the nitrate of silver, or touched with the solid sulphate of copper, and a mild mercurial ointment smeared over its surface night and morning,—such as the *Unguentum hydrargyri* diluted with two parts of lard, or the *Unguentum hydrargyri nitratis mitius*. For sensitive ulcers, ointments containing the extract of belladonna

are recommended; and this drug is sometimes added to mercurial applications. It may be used in the proportion of from ℥j.—℥ij. to ℥j. of lard. I have found marked relief derived from an ointment containing chloroform. The following is a prescription for this ointment, which will be found useful in many painful affections of the rectum and other parts:—

℞ Chloroformyl. ℥j.—℥ij.;
Zinci Oxidi, ℥ss.;
Olei Olivæ, ℥j.
Cerati Cetacei, ℥iv.;
M. Fiat Unguentum.

The delicate skin at the margin of the anus is subject to a linear abrasion or chap, and small sores occasionally form between the folds of integument at the outer edge of the sphincter, which probably originate in an affection of the follicles of the part. These chaps and sores cause more or less uneasiness in defecation, and often give rise to troublesome itching; but they are never attended with spasm of the sphincter or with the severe pain which occurs in ulcer of the rectum, and there is seldom any difficulty in getting them to heal. The daily operation of cleansing should be performed with sponge and water, and a piece of soft linen. All rough treatment of the part should be carefully avoided. If merely excoriations exist, the surface may be dusted occasionally with hair powder. When there are chaps or sores, a piece of lint soaked in black wash, or in a lotion of the oxide of zinc (℥j. to ℥vj.), or in the common Goulard, and lodged in the part, is generally sufficient to cure them. The small sores sometimes require to be touched with the

uterine functions. Steel medicines, the shower-bath, and sea-bathing, will be found beneficial. The complaint is somewhat capricious, so that what gives relief in one case or at one time, fails in another case or at another time, and after resisting our best remedies it sometimes subsides spontaneously.

CHAPTER IV.

HÆMORRHOIDS.

THE hæmorrhoidal veins distributed in the submucous tissue at the lower part of the rectum communicate in loups, and form a plexus which surrounds the bowel just within the internal sphincter. The veins are best seen when somewhat congested, their deep purple hue being very apparent through the thin mucous membrane with which they are in close contact. The plexus is then seen to be about three-quarters of an inch in length, and composed of veins of various sizes, arranged for the most part lengthwise and in clusters, being especially collected in the longitudinal folds of the rectum. The plexus does not extend lower than the external sphincter, but branches from it, passing between the fibres of the internal sphincter, descend along the outer edge of the former muscle, close to the integuments surrounding the anus.

These hæmorrhoidal veins are very liable to become dilated and varicose, giving rise to the disease termed *hæmorrhoids* or *piles*. When the plexus beneath the

mucous membrane within the external sphincter are thus affected, the hæmorrhoids are said to be *internal:* when the veins beneath the integuments outside the muscle are enlarged, the hæmorrhoids are called *external.* Both external and internal piles very frequently co-exist. Where this is the case, on laying open the anus and rectum the distinction between the two is very marked, the external sphincter forming a narrow band separating the internal from the external piles, which appear arranged in rows one above the other. The changes in structure consequent upon hæmorrhoids vary a good deal. In internal piles the lower veins of the plexus are dilated irregularly, or into pouches, which are filled with dark coagula. These coagula are often compact and hard. A section shows a number of veins of different sizes, mostly plugged with clots. A bunch of varicose veins, crowded in the lower ends of the longitudinal folds, produce prominent projections of the mucous membrane, and deepen the pouches between the folds. In addition to these elevations, a number of small dilated veins sometimes form in the short columnar projections described at page 6. Two or three of the larger prominences of the longitudinal folds meeting below coalesce, so as to form a transverse fold just within the sphincter. In old cases the mucous membrane and submucous areolar tissue become greatly hypertrophied. Thus are developed elongated processes of a polypus form, which grow as much as one inch in length, and projecting transverse folds, which I have known to measure one inch and a half in width. Not seldom there are two or even three transverse elevations of smaller size. The arteries which are abundantly supplied to the lower part of the rectum,

taking, as shown by Mr. Quain, a longitudinal course towards the orifice where they freely communicate, likewise enlarge considerably. The mucous membrane involved in internal piles is not only thickened, but extremely vascular. The disease is not always confined to the smaller veins at the extremity of the rectum, but, as it makes progress, the larger veins higher up the rectum also become varicose.

The dilated veins of external piles are better covered than those within the sphincter. In the early stage, before the integuments have become thickened, there are softish elevations in the skin, near the margin of the anus, of a slight blue tinge, being nothing more than swellings from varicose veins. At a later period, a projecting fold of skin, with a broad base, encloses a vein dilated into a pouch, and filled with a dark coagulum. A thick fold of this kind, when cut, sometimes exhibits a congeries of small varicose veins, many of them distended with clots. A number of such hæmorrhoidal excrescences frequently form a ring around the anus. Inflammation spreading from the coats of the veins causes the skin and areolar tissue covering them to become thickened and hypertrophied. Lymph is sometimes effused into varicose veins, and leads to their obliteration, after which the folds shrivel up, and become reduced to small flaps, which give the patient no further trouble. In some instances, elongated flattish folds may be observed springing from the margin of the anus at the point of junction of the mucous membrane and skin, the outer surface of the fold being covered with a membrane resembling the delicate skin at this part, and the inner surface lined with an extension of the mucous membrane, small veins being visible through it.

These growths hold an intermediate place between internal and external piles.

It appears that repeated distension of the hæmorrhoidal veins from causes about to be described, renders their coats weak, and that, under a repetition of congestions, the vessels yield, and become permanently varicose. They also *grow* larger, being not only dilated, but elongated and tortuous. Their coats, and the areolar tissue around them, become thickened, as in varix of the legs. The arteries supplying the part also acquire a greater development, the lower part of the rectum becoming in every respect a more vascular structure, though not an erectile tissue, which piles have been erroneously supposed to resemble. At the same time the textures covering the veins, the skin and mucous membrane, are hypertrophied in folds.

Hæmorrhoids is a disease of middle and advanced age. They rarely occur before puberty, and but few persons in after-life altogether escape them. All those circumstances which determine blood to the rectum, or impede its return from the pelvis, tend to produce this disease. Drastic purgatives; the accumulation of fæces occurring in constipation; the strain on the coats of the veins taking place in protracted and forcible defecation, and in efforts to void the urine when the passage for it is obstructed; the impediments to the circulation caused in women by the gravid uterus and tumours of this organ, and in men by a greatly enlarged prostate gland; abdominal tumours pressing on the inferior mesenteric vein; disease of the liver interrupting the portal circulation, may all be regarded as causes of hæmorrhoids. There is, no doubt, in many persons a natural predisposition to the complaint, which is then produced by slight causes. This disposition is sometimes shown

in a weak condition of the venous system generally. Thus, I have several times met with varicose veins of the lower extremities and also varicocele combined with hæmorrhoids. The disposition may be hereditary. The complaint, indeed, often occurs in members of the same family who inherit the local weakness of their parents. But a predisposition is more frequently acquired by sedentary habits, indulgences at table, and excitement of the sexual organs, which explains the well-known circumstance that hæmorrhoids are more prevalent in the higher classes of society than amongst the labouring population. The latter take plenty of exercise, live a good deal in the open air, and are little liable to constipated bowels. Hæmorrhoids, though a very common disease in both sexes, occur more frequently in males than in females. Few women, it is true, bear children without becoming in some degree affected by them; but the urinary and genital disorders of the other sex, combined with freer habits of living, are still more fertile sources of piles.

The symptoms produced both by external and internal piles vary a good deal in different subjects, and in different stages of the complaint. External piles cause a feeling of heat and tingling at the anus. A costive motion is followed by a burning sensation, and the excrescence becomes slightly swollen and tender on pressure, so as to render sitting uneasy. This congested state of the pile may pass off or lead to inflammation, accompanied with considerable enlargement of the hæmorrhoid, forming an oval tumour, red, tense, and extremely tender. The inflammation may subside, or go on to suppuration. When the matter is discharged, a clot of blood escapes with it, the abscess closes, and the dilated vein is usually

obliterated, the pile being reduced to a small flap of integument. Occasionally the opening remains fistulous. The irritation produced by costive evacuations, or by friction in sitting and cleansing the part, sometimes produces ulceration on the inner surface of the pile, and a sore, which extends a little within the circle of the sphincter. This is liable to occur particularly to those growths at the margin of the anus, which I have described as holding a middle place between internal and external piles. The pain in these cases is rather severe, a burning sensation lasting for an hour or two after defecation, and the sitting posture is at all times painful. The suffering, however, is not nearly so great as that occasioned by the irritable ulcer. External piles rarely give rise to bleeding to any great extent.

Internal piles, when slight, may exist for years, causing little inconvenience besides slight bleeding after a costive motion; and occasionally a feeling of fulness, heat, and itching, just within the anus. If only small, they protrude slightly with the mucous membrane in defecation, returning afterwards within the sphincter. When of larger size, the piles always protrude at stool, and require to be replaced, the patient usually pushing them up with his fingers. In a lax state of the sphincters, and in a loose and hypertrophied condition of the mucous membrane from which they spring, hæmorrhoids come down, even when the patient stands or walks about, so as to prove exceedingly troublesome, and to interfere with his taking walking exercise. When thus exposed to view they appear of a rounded form, and often of a deep purple or violet hue, have a soft feel, and are evidently very vascular, bleeding readily when handled. If free

from congestion, they exhibit a florid red colour with a rough granular surface. In consequence of the irritation from pressure and friction to which the protruding piles are liable, their mucous surface becomes tumid and abraded, and furnishes a free mucous discharge tinged with blood, which soils the linen. They are often so sore that the patient is obliged to keep in the recumbent posture, the pressure in sitting causing great uneasiness. This is more particularly the case when the extremity of an elongated pile, forming a small rounded tumour, of a bright red granular aspect, constantly projects at the anus. A swelling of this kind is always more or less painful, and when inflamed or ulcerated is the seat of a sharp burning pain. Large piles within the sphincter, when swollen from irritation, sometimes occasion a sensation as if a foreign body were lodged in the part.

The symptoms produced by internal hæmorrhoids are not always confined to the seat of disease. Irritation frequently extends to the urinary organs, the patient being occasionally troubled with a frequent desire to pass water, and even with difficulty in voiding it, from spasm at the membranous part of the urethra. On the other hand, disease of the urinary organs is a very common cause of hæmorrhoids. The connexion, indeed, between piles and disorders of the urinary organs is a matter of considerable practical importance; and the surgeon should be careful to ascertain the original and chief source of the patient's sufferings. Persons with stricture in the urethra, stone in the bladder, or enlargement of the prostate gland, are accustomed to strain so much in passing water, that they are frequently unable to employ the bladder without at the same time relieving the rectum; and the dis-

turbance in the circulation through the hæmorrhoidal veins produced in this way very often gives rise to piles. After the cure of the stricture in the urethra, or the removal of the stone from the bladder, the inconvenience suffered from the hæmorrhoids often ceases without any treatment particularly directed to the latter complaint. But the more frequent, and more severe and permanent complication is that of enlargement of the prostate, with hæmorrhoids; for not only are the hæmorrhoidal veins affected by the forcible efforts to relieve the bladder, but the enlarged gland, by obstructing the circulation in the larger veins, tends materially to promote the formation of piles. The veins of the hypertrophied prostate are always large and numerous, and communicate freely with the hæmorrhoidal; so that in congestion of the former the latter must more or less participate. Accordingly, few persons suffer from enlargement of the prostate without being also troubled with piles; and feeling a sense of weight and bearing down in the rectum, they are liable to attribute their symptoms to internal hæmorrhoids, instead of to the disease of the prostate gland.

Owing to the close relation of the uterus to the rectum, many of the diseases of the former organ have an injurious effect on the latter. The influence of affections of the uterus on the rectum is a subject which has recently been noticed by Mr. J. B. Brown in a paper of much practical interest, in which he has shown that in the treatment of hæmorrhoids we may sometimes be disappointed in effecting a cure by overlooking the diseases producing or aggravating them[2].

[2] Brown on some Diseases of Women admitting of Surgical Treatment, p. 147.

In inflammatory affections of the uterus, the afflux of blood to this organ promotes the development of piles in the adjoining viscus. Tumours and diseases producing congestion of the womb also operate injuriously on the vessels of the rectum. Women usually suffer more from piles during the catamenia than at other periods, and if subject to bleeding, it occurs chiefly at the period of the menstrual flux. In some cases, the flow of blood from the rectum appears to be a compensation for a deficient discharge from the uterus.

Persons subject to piles frequently suffer no inconvenience from them until, irritated by an unusually costive motion, or by a smart purgative, or under the excitement of wine, the growth becomes congested and inflamed, and causes spasm of the sphincter muscle. They then have what is termed an "attack of piles," —that is to say, they suddenly experience a sensation of heat, weight, and fulness, just within the rectum, followed by considerable pain at stool, and sometimes irritation about the bladder. These symptoms, which are often attended with febrile disturbance, arise from inflammation and swelling of the piles, which afterwards subside, but not always without leaving some permanent enlargement of the growths. The formation and increase of piles seem, indeed, to arise chiefly from a determination of blood to the rectum. This determination is greatly promoted by stimulating drinks, so that some patients never suffer from the complaint except after indulging in this way. They are then rendered sensible of an afflux of blood by a sense of heat or intolerable itching at the anus.

Internal as well as external piles are liable to inflame and suppurate, the matter forming a small abscess in the fold, which, bursting at its extremity,

sometimes leaves a small fistulous opening. This gives rise to the discharge of a small quantity of pus, which appears as a dirty yellow stain on the linen, and leads the surgeon to suspect the existence of a blind internal fistula. On examination with the speculum, the opening in the pile may be discovered, and a fine probe passed into it goes to the bottom of what proves to be a blind sac, but which does not extend to the areolar tissue external to the rectum, and is not to be regarded and treated as a blind internal fistula, the removal of the growth being sufficient for the cure of this kind of fistula. I recently examined a specimen of fistula in ano, combined with large internal hæmorrhoids, which were riddled with numerous minute holes, leading to blind sinuses confined to the excrescences.

When internal piles of some size protrude at the anus, they are liable to be constricted and strangulated by the external sphincter. The contracted muscle impedes the return of blood, and occasions inflammatory swelling of the piles, until at length they become strangulated and mortify. In this way hæmorrhoids of large size are said sometimes to slough off, the patients being cured of the annoying complaint by a sort of natural process. An occurrence of this kind is attended with a good deal of pain and suffering, but is free from danger. In the cases which I have met with, the extremities only of one or two of the larger hæmorrhoidal growths perished, and the patients, though experiencing relief, were by no means cured of the disease.

One of the most common symptoms of internal hæmorrhoids, indeed that from which the name of the complaint is derived, is hæmorrhage, which occurs

when the bowels are evacuated. The bleeding varies greatly in amount. Sometimes the motions are merely tinged with a few drops of blood: in other instances the quantity lost is considerable, several ounces being voided at stool. The bleeding may be irregular, occurring only after costive motions, or in certain states of health; or it may take place daily, going on even within the bowel, and producing the usual symptoms of derangement from continued losses of blood. Thus the complexion becomes blanched, and the lips appear waxy. The patient loses flesh and strength, has a quick and small pulse, suffers from throbbings in the temples, palpitations, and difficulty of breathing on making the slightest exertion, and at length finds his legs and feet swollen from œdema. The character of the bleeding occurring in piles, also varies: it is sometimes venous, sometimes arterial. There are some persons who, without suffering any other inconvenience from a varicose state of the hæmorrhoidal veins, become liable to discharges of blood from the rectum, either at regular periods, or whenever, from good living or want of exercise, the habit is fuller than usual. In these cases from three to six ounces of blood, or even more, come away at stool, following the fæcal evacuation; and the blood which is voided is of a dark colour, and evidently venous. Such habitual hæmorrhoidal discharges are not uncommon in plethoric persons. Some years ago I had under my care a stout gentleman, upwards of seventy years of age, who had been subject to periodical discharges of blood from the bowels for many years, usually in the spring and autumn. After lasting a week or ten days, they generally ceased spontaneously, but not always; and when feeling faint and weak from

their continuance, he was in the habit of arresting them by injections of cold water. The discharges at length ceased, but in six months afterwards his urine became albuminous; and, a year later, he died suddenly after an attack of epistaxis. Periodical losses of blood from the hæmorrhoidal veins of this character relieve congestion of the liver and kidneys, help to ward off attacks of gout, and prevent fits of apoplexy. They are not, therefore, to be interfered with, unless, by their long continuance, they are exhausting the patient's powers. In many persons and states of constitution, and habits of life, they are rightly regarded as safety-valves. These discharges, though hæmorrhoidal, cannot, perhaps, be strictly regarded as proceeding from hæmorrhoids, there being no change in the condition of the veins amounting to disease. It sometimes happens, however, that persons, after suffering from an attack of piles for a few days, have a pretty free discharge of blood from the rectum; the bleeding shortly ceases, and they find all their symptoms removed. This hæmorrhage is also venous. The escape of blood from the hæmorrhoidal veins, whether by exudation or rupture it is difficult to say, unloads the congested and inflamed vessels, and thus the patient gets relief. But the bleeding which most commonly occurs from internal piles is undoubtedly arterial, taking place from arteries enlarged by disease. The vessels on the spongy surface of the mucous membrane readily give way when blood is determined to the part in defecation, or when abraded by the passage of the fæces. An artery of some size in the submucous tissue may be exposed by ulceration, and continue for some time to pour out blood, weakening the patient, and giving rise to the symptoms above described. On

examination, the surgeon may discover a red fungous-looking mass, from which the bleeding is seen to proceed; and sometimes a small artery may be observed at the apex pumping out blood. The blood voided has a bright arterial colour. That hæmorrhage of this character is good for the health is quite a mistaken notion; and it is important that the practitioner should distinguish the bleeding taking place as a consequence of local disease, from that which arises from a constitutional plethora or congestion of the internal organs.

The only mode of making a satisfactory examination of internal piles is to obtain a thorough descent of the hæmorrhoidal growths. A tactile exploration is insufficient. It is difficult indeed to detect internal piles by passing the finger into the rectum, and it is often impossible to distinguish the soft hæmorrhoidal swellings from the loose folds of the mucous membrane in this way. When piles slip down easily, a straining effort by the patient will extrude them far enough for the surgeon's inspection. In other cases a lavement must be administered, and the expulsive effort used in voiding it should be kept up until the examination is made. By this means the full extent of the disease can be ascertained. I have already explained that in hæmorrhoids the mucous membrane from which they spring becomes relaxed and separated from the muscular coat, and following the movements of the piles, gets extruded with them. The mucous membrane of the rectum may fall, however, into this condition independently of hæmorrhoids; and, in cases in which it descends freely, some discrimination is required to prevent the projecting folds from being mistaken for piles. The everted thickened membrane getting constricted

by the sphincter becomes congested, and in this turgid and livid state is apt to be taken for swollen piles. I have witnessed this mistake, and know of an instance in which some folds were tied, under the supposition that they were hæmorrhoidal growths. In this case the parts constricted in the ligatures included the whole thickness of the intestine. Diffuse inflammation of the areolar tissue succeeded the operation, and had a fatal result.

When piles are small and cause but little inconvenience, the treatment is very simple. In all instances attention should be paid to the habits of living. Persons with this complaint should take wine in great moderation, if at all; and they are in most instances benefited by abstaining entirely from stimulating drinks. I have said that in the growth of piles there is commonly a determination of blood to the lower part of the rectum. Many individuals never experience a sense of this determination, or suffer from their piles, except after taking a glass of spirits-and-water or a few glasses of wine. Such persons should become rigid water-drinkers. Active exercise in the open air should be taken daily, and the patient must avoid sitting too long at the desk—I say at the desk, because it is by prolonged occupation in this way, and neglect of the rules of health, that hæmorrhoidal complaints are often induced, which explains why literary persons so often suffer from them. Chairs with cane seats are to be recommended, as preventing the heat occasioned by stuffed cushions[3]. The most objectionable are those covered with the patent American

[3] Persons who are subject to piles, and take much carriage exercise, will experience comfort and advantage from using a moveable cane seat instead of the ordinary cushion.

cloth, which, being impermeable to moisture, causes a sensation of heat and closeness. The bowels must be carefully regulated, so as to avoid hard and costive motions, as well as an undue action. Irritating the rectum by repeated purging is more hurtful even than constipation. On the other hand, when the secretions are sluggish and the bowels costive, a mild cathartic, by clearing the intestines, especially the large, unloads the congested vessels, and relieves the piles. In cases where the bowels are habitually costive, careful regimen, with sufficient exercise, will do much to correct the evil. But help from medicine is often needed. Linitive electuary rendered more active if necessary by the addition of castor oil or tartrate of potash taken at bed-time; or a daily dinner pill, consisting of the compound rhubarb, the compound colocynth, and the watery extract of aloes, in doses of a grain each, will probably answer the purpose. The last preparation is not open to the objection commonly and justly made to the use of aloes in this complaint. The watery extract dissolves readily, and produces its effects before reaching the rectum. When the intestines require fully unloading, a draught, containing rhubarb powder and the tartrate or sulphate of potash, answers without producing local irritation.

In cases of external piles the parts should be sponged night and morning with cold water, or bathed with an astringent lotion of alum or sulphate of zinc. When they become inflamed the patient must keep the recumbent position. The local application of pounded ice or of a freezing mixture will generally give complete relief in a few hours. If there be merely one pile of no great size, it is a good plan to open the swelling freely with a lancet, and then to squeeze out

the dark coagulum. Let the patient remain in bed or on the sofa for two or three hours after the operation, and only a few drops of blood will be lost. If he sit up or move about, his dress may get saturated by the bleeding. The inflammation afterwards subsides, the vein becomes obliterated, and the pile shrivels up to a small fold. When several piles are affected, the common practice is to apply a few leeches, and to direct the parts to be well fomented and poulticed, and after the inflammation has subsided to recommend the excision of the growths, to prevent the patient being again troubled with them. The application of cold is so effectual that leeching is seldom required. The excision of inflamed piles is a very painful operation; but since the introduction of chloroform, I have occasionally, in order to save time, removed them in this condition, the patient being placed under its influence. The bleeding after the operation relieves the inflammatory symptoms, and the part heals readily afterwards.

The excision of external piles is an easy operation, soon performed, and very effectual. The folds should be seized with the hæmorrhoidal forceps, drawn out a little, and then removed from the margin of the anus with a curved pair of scissors. A piece of dry lint will generally be sufficient to stop the bleeding, which is rarely of any consequence. If a vessel be seen pumping out blood it may readily be secured with a ligature. For an ulcerated pile excision is the best remedy. I removed from a married woman, aged thirty-seven, a patient in the London Hospital, a broad fold at the margin of the anus, the inner surface of which was the seat of rather a large superficial ulcer which extended a little within the sphincter. Though the fold

was free from inflammation, she had severe pain for some time after going to stool, and had suffered in this way for seven months. The different practitioners to whom she had applied had treated her without making an examination. She was relieved at once by the operation, and in a fortnight the part was nearly healed, and she left the wards. This broad fold evidently belonged to the growths which hold an intermediate place between internal and external piles, the ulcer having formed on the mucous surface. The treatment applicable to external piles is proper for these mixed growths. They may be excised without any risk of troublesome bleeding. In the removal of these excrescences from the anus the surgeon should be careful not to excise the parts too extensively. I know of a case in which the skin at the base of some external piles having been freely cut away, the outlet became so contracted afterwards as to cause much misery from difficult defecation.

In cases of internal piles, half a pint of cold spring water thrown into the rectum in the morning after breakfast has a very beneficial effect on the hæmorrhoids by constringing the vessels and softening the motions before the usual evacuations. The relief afforded by this simple treatment, combined with care in the mode of living, is often remarkable. Persons who have suffered more or less from piles for years have assured me, that they have been quite free from all annoyance from them since they have regularly used the cold-water lavements. Some practitioners add alum, the sulphate of zinc, or muriated tincture of iron, to the water, to render the injection more astringent. I have used, in bad cases, the decoction of oak bark with alum with much advantage. When

an astringent injection is resorted to, it should be small in quantity, and given when the patient goes to bed, in order that it may be retained during the night, and thus have a longer time for acting on the piles. As an aperient, there is nothing better than the linitive electuary with sulphur, or the bitartrate of potass, which should be taken at bed-time, so as to ensure an action of the bowels in the morning. The confection of black pepper, better known as *Ward's paste*, has long been in great repute as a remedy for piles, and there can be no doubt that it exerts a beneficial influence on the complaint. The usual dose is a drachm three times a day. This preparation is supposed to pass through the alimentary canal but little altered, and on reaching the rectum to act directly on the piles as a stimulating application. It does not seem a very scientific kind of practice to recommend patients to swallow a composition of pepper which is to produce no effect until it reaches quite the other extremity of the alimentary canal; and Sir B. Brodie relates that a patient of Sir Everard Home, taking this view of the matter, crammed as much as he could bear of it up the rectum, which, it is reported, had the effect of curing him. Sir E. Home afterwards used it as a local application in some other cases with manifest advantage. The cubebs pepper taken internally seems to relieve piles much in the same way as the confection of black pepper. I am not much in the practice of recommending these remedies, preferring to act more directly on the seat of disease. When there is a slight slimy discharge, and evidently an unhealthy state of the mucous surface of the hæmorrhoids, I find benefit derived from the application of a mild citrine ointment. The patient may take a little of this oint-

ment on the end of his finger, and, softening it at the fire, apply it to the parts within the sphincter every night. This is a better application than the gall ointment which is so often prescribed. An ointment containing the nitrate of silver is also very beneficial; but the circumstance of its being liable to stain the linen is an objection to its use. I have sometimes applied the solid sulphate of copper with good effect in correcting the granular condition of the surface of the piles; it is less painful than the nitrate of silver, which otherwise answers the same purpose. In cases where there is much irritation about the rectum, great relief may be derived from the balsam of copaiba, which operates as a mild aperient at the same time that it allays irritation. It may be given in doses of half a drachm, with about fifteen minims of the liquor potassæ, three times a day, in a mixture to disguise the taste. Persons who find this mixture nauseous may be able to swallow the capsules.

When internal piles come down at stool, and require to be replaced, the patient should be provided in the closet with a basin of cold water and a piece of sponge, or soft linen rag, to apply to them. It may happen that in consequence of the protruded piles becoming a little inflamed, or more congested than usual, the patient finds himself unable to return them, and requires assistance. The surgeon should direct the patient to lie down on a sofa, and should endeavour by gentle pressure to empty the piles of blood, and then to push them back within the sphincter, in which he will generally be able to succeed if the hæmorrhoids have not been long down. They may, however, have become much swollen and congested, and be found tightly constricted by the sphincter. In this case, the piles

should be punctured in several places with a needle, and afterwards bathed with cold or iced water, and the patient should be directed to remain in the recumbent posture. In a short time, the tension and swelling having subsided, the piles will very probably slip up without difficulty. If the protrusion have been strangulated for some time, and sloughing have already commenced, the surgeon ought not to interfere with them: fomentations and poultices should be applied, and attention must be paid to the general state of health, and the sufferings must be relieved if necessary by opiates.

Internal piles, when of such a size as to protrude at the anus, or when subject to inflammation, ulceration, and bleeding, so as to prove a constant source of annoyance and suffering, must be removed by operation. This may be done by excision, by cauterization, or by ligature. Excision is the quickest and least painful of these proceedings; but there have been so many instances in which dangerous hæmorrhage has occurred after the removal of internal piles with the knife, that few good surgeons now advocate the operation, or venture to perform it. Several eminent operators who have tried excision have acknowledged that they have been obliged to abandon the practice, in consequence of the serious risks which some of their patients incurred from bleeding. Dupuytren, who was an advocate for excising piles, used frequently to have recourse to the actual cautery to arrest the hæmorrhage which ensued; and it is well known that Sir Astley Cooper had some fatal cases in consequence of bleeding after this operation.

Mr. Colles, of Dublin, was in the habit of transfixing the base of the tumours with a hook before excising them, to prevent their being drawn up within the

sphincter, which enabled him to command a view of the parts, in the event of any vessel requiring to be tied. This mode of securing the parts affords some advantage to the operator; but it often happens in this operation, that, although the bleeding may be comparatively slight at the time the piles are cut off, a large quantity of blood escapes in the course of a few hours afterwards, and gradually accumulates in the rectum. Dieffenbach's plan is preferable to the preceding. He first passed a ligature through the base, and grasping the pile with the forceps, excised it between the forceps and the ligature, which was then tied. The pressure produced by bringing the edges together assists in preventing hæmorrhage. Small elongated piles can be removed in this way without risk.

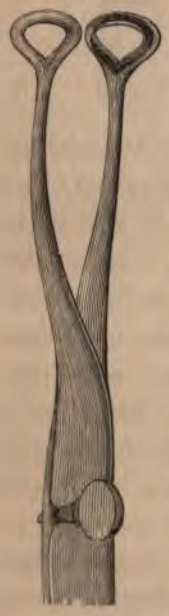
Internal piles admit of removal by cauterization. Dr. Houston, of Dublin, in a paper published in 1843[1], strongly recommended the use of nitric acid for the cure of the florid vascular pile; and I have since employed this escharotic in cases of the kind. It has the advantage of being a safe and mild remedy, and is certainly well adapted for destroying the bright fungous-looking pile which is so often the source of hæmorrhage, and the cause of much local uneasiness. Means having been taken to bring the pile well into view, the patient should lean over a table, and his nates should be separated by the hands of an assistant. The surgeon may then take a glass brush, or a flat bit of wood, and, having dipped it in concentrated nitric acid, apply the escharotic to the entire surface of the hæmorrhoid, until its florid hue becomes quite changed to an ash colour. No speck of red should be allowed to remain. Care must be taken that none

[1] Dublin Journal of Medical Science, vol. xxiii.

of the acid touches the skin at the margin of the anus. For the purpose of protecting the parts around the pile whilst applying the acid, I use a pair of steel forceps with electro-gilt blades, which are well adapted to grasp the base of the pile, and to shield the structures around. The moisture on the surface having been absorbed with lint, and the part smeared with sweet oil, the protrusion may be placed within the sphincter. The pain consequent on the application is not severe, and the separation of the superficial slough and healing of the sore occasioned by the acid are attended with scarcely any uneasiness. If the pile be not large, this plan answers very well, but it is not adapted for the removal of hæmorrhoidal flaps and tumours of any great size. The escharotic treatment of piles has recently been a good deal resorted to, and several cases in which the attempt has been made to remove well-developed growths by this method without success have come under my notice, and required other means of cure. In some instances, too, in which the nitric acid has been extensively applied, I have been informed that on the separation of the eschars there has been troublesome hæmorrhage; and, also, that the large sores which ensued have healed with considerable difficulty. The actual cautery, Vienna paste, and other caustics, are also used, chiefly by French surgeons, and some ingenious instruments have been contrived for their application.

For the cure of internal hæmorrhoids of any considerable size the ligature is the safest and most effectual

remedy. In order to apply the ligatures properly, it is necessary to promote the protrusion of the piles. For this purpose a dose of castor oil should be given about six or eight hours before the time fixed for the operation; and a pint of warm water should be thrown into the rectum shortly before the surgeon's arrival When the fluid is discharged the piles will descend, in which position they may be retained by the patient keeping up a slight expulsive effort. It is better to operate without chloroform, as the relaxation which occurs under its influence is very liable to occasion the ascent of the piles, and generally prevents their full extrusion. I now never employ chloroform unless the patient is very sensitive and much desires it. The operation should then be performed, the patient lying on the side with the thighs raised: otherwise the most convenient position is with the body leaning over a table,



and the nates separated by an assistant. The growth to be tied should be seized and drawn out either with the volsellum, or what is better, because it ensures a firm hold without tearing the pile or causing bleeding, with a broad-bladed forceps grooved inside, having a rack catch at the bows to fix the grasp of the instrument. If the pile be an elongated one, a ligature may be tied tightly round its base. In other cases a curved needle set in a handle, with the eye near the point, and armed with a fine strong twine ligature, should be passed through the base of the pile from without inwards. The needle is then to be withdrawn, the ligature being left double. The loop

being divided, the pile is to be strangulated by drawing the ligatures close round the base, and knotting them as tightly as possible on each side. The other piles are afterwards to be treated in the same way. When the hæmorrhoids are large in size, a notch made with scissors on each side at the part to be girt with the ligature, just before it is tightened, will facilitate the separation without any risk of bleeding. The ends of the ligatures having been cut short, the strangulated piles should be gently pushed up into the rectum.

I generally order a mixture of chalk with a full dose of laudanum to be given immediately after the operation, in order to relieve pain and bind the bowels. The sufferings of the patient afterwards vary a good deal, according to the extent of the parts strangulated and the irritability of the constitution, but they are generally slight and soon subside, a ligature on a mucous membrane not being productive of as much pain as when constricting skin. In some instances, however, they are severe and prolonged, and accompanied with restlessness and want of sleep. When this is the case, there is nothing capable of giving such complete relief as ice. A small india-rubber bag or bladder containing ice may be applied to the part, and refilled as occasion requires. Both immediately after the operation, and later when inflammation has been set up, the greatest ease and comfort are derived from this application. If the heat and swelling should be only slight, poultices and fomentations will give sufficient relief. No aperient should be taken for several days. I generally order a dose of castor oil on the third or fourth day after, and direct the patient to sit in a warm hip-

bath as soon as it has acted. The tighter the ligatures are tied, the sooner they ulcerate through and come away. By notching the part in the way described, a voluminous pile has sloughed away in two days. The separation usually occurs in about four or five days, during which period the patient should remain in bed or on a couch. The detachment of the sloughs leaves, of course, at the lower part of the rectum a sore surface, which bleeds slightly when the bowels are relieved, and some attention will be required until this heals. The motions must be kept soft by mild aperient medicine,—as the linitive electuary, or castor oil. If the sore be slow in healing, it may be smeared night and morning with a liniment consisting of a drachm of the *liquor plumbi diacetatis* and an ounce of the confection of roses; or it may be brushed over with a weak solution of the nitrate of silver. Should bleeding prove troublesome after the separation of the sloughs, a somewhat stronger solution (gr. x.—℥iv.) will effectually check it.

The local irritation produced by the ligatures sometimes occasions retention of urine, and the passage of a catheter may be required in the evening after the operation. A hip-bath in addition to an opiate injection will generally relieve the urinary symptoms.

In operating on internal piles it is not necessary to be particular to include in the ligature every portion of the morbid growth, or of the hypertrophied mucous membrane extruded with it. The removal of large piles leaves a sore surface of such an extent that the contraction which ensues in healing is sufficient to reduce any part that may have escaped the ligature, and to correct the lax condition of the adjoining mucous

membrane which conduces to the protrusion of the hæmorrhoids. I have rarely found occasion to include any large portion of the mucous membrane from which they proceed. The ligature is applicable to the cure of the relaxed condition of the mucous membrane with protrusion occurring independently of piles. The removal of a small portion of the membrane by ligature, or in slight cases by caustic, will ensure a sufficient amount of contraction to brace up the part and prevent eversion recurring.

If the surgeon when tying internal piles should observe any of large size external to the sphincter, he will do well to excise them at the same time. If the patient be not under the influence of chloroform, this is more felt than the tying of the ligature, but it will probably save a good deal of suffering afterwards, as the irritation produced by the tight ligatures is very liable to cause the external piles to inflame. A few years ago, a young clergyman in the country, who had suffered severely from piles, took lodgings in town, to undergo the treatment necessary for their cure. As he was troubled with both internal and external hæmorrhoids, I recommended the former to be tied and the latter removed with the knife. Being a timid man, and finding that his sufferings proceeded almost entirely from the internal piles, he would only consent to my operating on these. The consequence was, that the irritation excited by the ligatures caused the external piles to inflame and swell excessively; and this added so much to his distress, that on the third day after the operation I was obliged to excise them. Fortunately, chloroform saved him from what would otherwise have been a most painful operation, in the inflamed state of the parts. He afterwards did quite

well. When the inflamed external piles are quite small, sufficient relief may be obtained by freely lancing them and afterwards applying fomentations.

Ordinary bleeding from piles may be stopped by an injection of cold or iced water, or some astringent solution, as the sulphate of zinc or copper, or of the infusion of matico or rhatany; but when the hæmorrhage is continued, following every evacuation and weakening the patient, other measures must be taken to arrest it. I have already alluded to the prejudice which exists against interfering with bleeding piles, from the belief that the loss of blood is good for the general health, or that danger may be incurred in stopping an habitual discharge. On this ground bleeding is sometimes allowed to go on to an injurious extent before recourse is had to surgical assistance; but arterial hæmorrhage from piles is quite another matter from the occasional or periodical venous discharges to which many persons are liable. In cases of hæmorrhage, an effectual plan is to touch the bleeding point with strong nitric acid in the mode already described; or if the pile should be large, the surgeon may seize it or its bleeding extremity with the forceps or tenaculum, and include the part in a ligature; but, in consequence of an irritable condition of the sphincter, there may be difficulty in exposing the bleeding point, and much opposition to the introduction of a speculum, without at least the assistance of chloroform. Under these circumstances, the surgeon may introduce a pencil of nitrate of silver, and make a free application of it to the surface, which will often have the desired effect. An enema of cold water, or an astringent injection as the infusion of rhatany root, may be given just previous to the bowels acting. The most distressing cases of piles

met with in practice are those in which there is not only important hæmorrhage, but ulceration on the surface, forming a painful and irritable sore. The following example will illustrate the difficulties of such cases, and indicate the treatment necessary in dealing with them.—On the 8th of November, 1845, a married lady, naturally of delicate constitution, and in impaired health from repeated miscarriages, noticed a rather free discharge of blood after a costive motion. She had been troubled by an internal pile for some years, and had just returned from the sea-side, where she had suffered severely from it. A dull pain had been felt in the lower part of the back after walking exercise. The uneasiness sometimes came on at night, lasting several hours, and disturbing her rest. She also suffered acutely for about an hour after every evacuation, and the motion was followed by a pale yellow discharge. Her spirits became much depressed; she lost appetite, and returned to town in worse health than when she left home. In a few days afterwards the bleeding occurred. I made an examination; and with some trouble, owing to the tender condition of the parts, got sight of a florid-looking pile rather deeply seated. I applied the lunar caustic pretty freely to the inflamed and ulcerated surface. The pain of the application lasted several hours. To my disappointment, there was a return of the bleeding after the next motion. Cold water and astringent injections were administered twice a day; but the bleeding still continued. A surgeon who saw the case with me on the 11th, suggested another free application of the caustic, which was made with some difficulty, owing to the painful spasm of the sphincter, but with no better effect than before. She took the acetate of lead, gallic

acid, and had strong astringent injections of various kinds, but without arresting the bleeding, which, though not copious in amount, but occurring once or twice in the twenty-four hours for several days, had rendered her anæmic, and much reduced the strength in her enfeebled state of health. At a consultation with Sir B. Brodie, held on the 14th, it was determined that an attempt should be made to tie the pile. The resistance of the irritable sphincter having been overcome by force, and the lower part of the rectum partly everted, the pile was seized and dragged down, and, with some difficulty, a ligature was tightly secured round its base. The pain of the operation was excruciating, and it was necessary to give a drachm of laudanum immediately afterwards. The treatment, however, was quite effectual; there was no return of the bleeding, and the lady regained her usual health. Had the properties of chloroform been known at that time, the treatment of the case would have been much facilitated, and the acute suffering prevented.

The extirpation of internal hæmorrhoids by ligature is both an effectual and a safe mode of treatment, and in many instances the pain attending it is quite slight. Those adverse to the plan have magnified the risks and sufferings, and have spoken of phlebitis, and tetanus, and diffuse inflammation followed by sloughing, as common occurrences after the operation. No fatal case has come under my own notice, either in public or private practice. Some amount of danger must be incurred in every kind of operation, serious results sometimes arising from the slightest causes; and the tying of piles cannot be expected to be exempt from risks which may attend a trifling puncture in the finger. But an unfortunate result from the application

of ligatures to piles is entirely exceptional; and, with common precautions, this proceeding must be regarded as safe as any operation in surgery.

The symptoms of hæmorrhoids appear to admit of some temporary relief from mechanical pressure. For this purpose, bougies have been introduced into the rectum, and retained there for a certain period daily; and short metallic plugs have been worn for the same purpose. The principle of giving support to weak and dilated veins by mechanical means, is of the utmost value in surgery, but it is obviously impossible to apply this with effect to the hæmorrhoidal veins; and, though some benefit may be derived from the instruments alluded to, the relief is too slight and transient, and the treatment of too disagreeable a character, to render these plans of much value in practice. In persons, however, advanced in life, with a weak sphincter and relaxed rectum, especially in men with enlargement of the prostate gland, the hæmorrhoidal growths and the adjoining mucous folds slip down so readily when the patient stands or walks about, that it is often necessary to adopt some mechanical means to support them, and prevent their protruding. Such measures are chiefly required in cases where the patient is very reluctant to undergo an operation, or is an unfit subject for one. There is an instrument in common use consisting of a steel band to encircle the pelvis, from the back of which a slightly curved spring descends to a point corresponding to the anus, at which extremity a conical ivory or india-rubber pad is attached. The pad, pressed upwards by the spring, supports the rectum, into which it slightly enters. Some of these instruments possess the advantage of not being exposed to displacement in the changing posi-

tions of the body, the back spring being only loosely attached to the circular band. Perhaps a more comfortable support is that given by an air or water pad connected to an abdominal bandage in front and behind by elastic bands. A plug with a contracted neck, the part grasped by the sphincter, sometimes answers the purpose of supporting the bowel, and can be worn with comfort.

CHAPTER V.

PROLAPSUS OF THE RECTUM.

In describing the changes occurring in piles, I remarked that, in relaxed states of the sphincter muscle and coats of the bowel, internal hæmorrhoids frequently slip down and protrude at the anus. The descent of these growths is commonly attended with more or less eversion of the hypertrophied mucous membrane of the lower part of the rectum, similar to what takes place, although in a slighter degree and only temporarily, in the ordinary actions of defecation. This protrusion and exposure of the thickened mucous surface are erroneously described by writers as a prolapsus of the rectum. In the true prolapsus, however, there is a great deal more than an eversion of the internal surface; the bowel is inverted; there is a "falling down" and protrusion of the whole of the coats—a change in many respects analogous to intussusception, but differing from it in the circumstance, that the involved intestine, instead of being sheathed or invaginated, is uncovered and projects externally.

The length of bowel protruded in prolapsus varies greatly, from an inch to six inches, or even more. The shape and appearance of the swelling depend partly upon its size, and partly upon the condition of the external sphincter. When not of any great length the protrusion forms a rounded swelling which overlaps the anus, at which part it is contracted into a sort of neck. In its centre there is a circular opening, communicating with the intestinal canal: an inversion of greater extent usually forms an elongated pyriform tumour, the free extremity of which is often tilted forwards or to one side, and the intestinal aperture assumes the form of a fissure receding from the surface of the tumour, owing to the traction exerted upon it by the meso-rectum. In a relaxed condition of the sphincter the surface of the protrusion has the usual florid appearance of the mucous membrane; but in other cases it is of a violet or livid colour, and tumid from congestion, the return of blood being impeded by the contracted sphincter. The exposed mucous membrane is often thickened and granular, and sometimes ulcerated from friction against the thighs and clothes. A thin film of lymph may be occasionally observed coating its surface. On examining a section of a large prolapsed rectum taken from the body of a child, I found the coats of the protruded bowel greatly enlarged; the areolar tissue was infiltrated with an albuminous deposit, the muscular tunic hypertrophied, and the mucous membrane much thickened and dense in structure, especially at the free extremity of the protrusion. These changes are sufficient to account for the difficulty in reducing the parts, and in retaining them afterwards, which is so often experienced in the treatment of these cases in children,

the bowel having become too large to be conveniently lodged in its natural position, and, like a foreign body, exciting the actions of expulsion. I believe that in all cases of prolapsus in which the parts are suffered to remain unreduced for any time, the coats of the extruded bowel will be found thickened and hypertrophied, from the irritation to which they are exposed in this condition. The atonic and relaxed state of the sphincter muscle is well shown by the facility with which one or two fingers can be passed through the anus even in young children.

Prolapsus of the rectum occurs most frequently in children, but is not unfrequently met with at a later period in life. In infancy it is produced by protracted diarrhœa; the frequent forcing at stool so weakening the coats and connexions of the rectum, and relaxing the sphincter, as at length to lead to inversion of the bowel. The straining efforts to pass water consequent upon stone in the bladder, also often give rise to this affection in early life. In adults the descent results chiefly from a weakened condition of the sphincter and levator ani muscles, and a general relaxation of the tissues of the part. In these cases, the rectum being imperfectly supported by the perineum, the eversion at stool gradually extends, until an actual inversion takes place, which may increase until it forms a protrusion of considerable size. This form of prolapsus is more common in women than in men. In the former, it results in a great measure from weakness in these parts produced by repeated child-bearing. The extent to which the sphincter sometimes admits of dilatation in women, and the amount and size of the parts falling through it, are really remarkable. There

is a preparation in the Museum of the College of Surgeons[5], consisting of a considerable portion of the rectum inverted and protruded through the anus, forming a tumour of nearly hemispherical form, between three and four inches in diameter. The mucous membrane of the rectum is thickened and extensively ulcerated; the opening through which the parts are protruded is of great size; there is also some degree of prolapsus of the uterus, with inversion of the vagina. Some years ago I was asked to visit a poor Jewess in Petticoat Lane, the mother of several children, who had a prolapsus of the rectum which formed a round tumour the size of a child's head of two or three years of age. There were large ulcers on the surface; the anal orifice was dilated to an enormous extent. She was in a miserable condition, being unable to pass her water or to evacuate her bowels without forcing up the protruded parts, which slipped down the moment her hands were removed from the swelling. A prolapsus may be combined with internal piles. We meet with this in men affected with enlargement of the prostate or stricture, and who are accustomed to strain in passing water. This frequent forcing, as well as the habitual protrusion of the hæmorrhoidal folds, so weaken the sphincter and relax the coats and connexions of the rectum, as ultimately to cause displacement and inversion of the bowel. In these cases the hæmorrhoids will be observed encircling the upper part of the protrusion near the anus.

The annoyance and inconvenience occasioned by a prolapsus of the rectum vary considerably under different circumstances. Thus the bowel may descend

[5] No. 1382.

only in a very slight degree at stool, and disappear by a natural effort afterwards; or it may come down only occasionally, admitting of being easily thrust back, and, when returned, will remain in its place until an attack of diarrhœa, or the effort to pass a costive motion, causes it to fall again. It sometimes appears after every motion, and even when the patient stands and moves about, forming a large red unsightly tumour exposed to friction, feeling sore, and soiling the linen with a bloody discharge, and requiring to be pushed up frequently during the day. Or it may be constantly protruded, the gut being fixed so as not to admit of replacement. There are cases on record in which a large prolapsus has become strangulated and inflamed, and has even mortified and sloughed off; similar to what sometimes happens to an invaginated intestine. All the worst forms that I have met with have been amongst the neglected children of the poor. Young persons generally outgrow this complaint by the period of puberty; and, common as prolapsus is in early life, it is very rare in young grown-up subjects. I have known, however, of persons who have had this disease in infancy becoming affected with a return of it in later life from the effects of a diarrhœa.

In adults prolapsus is commonly attended with a slimy discharge of mucus tinged with blood, and, in some instances, with troublesome bleeding. The hæmorrhage does not occur from any particular spot, but as an exudation from the congested mucous surface when the bowel is protruded at stool. As the cause producing the hæmorrhage is constantly recurring, there is sometimes considerable difficulty in arresting it, local applications having little effect so long as the bowel continues to descend. In an obstinate case of

this kind in a gentleman about forty years of age, who was quite pallid from the continuance of small losses of blood in this way, I applied the nitrate of silver and sulphate of copper to the exposed mucous surface, and used various astringent injections before the bowels acted, but without any effect in stopping the bleeding, until I succeeded by treatment in preventing the bowel falling. I have experienced similar difficulty in arresting the bleeding in other cases so long as the prolapsus continued.

In children, irritability of the bowels and diarrhœa must be checked, and the disordered secretions corrected by suitable remedies. Attention must be paid to diet; and when the powers are feeble, benefit will be derived from quinine or steel medicines. Cod-liver oil often proves of great service in causing easy motions, and restoring the general health at the same time. In slight cases it will be sufficient to direct the nurse, when the rectum descends at stool, to place the child on its face across her lap, and to return the parts by taking a soft cambric handkerchief or sponge, wetted in cold water, in both hands, and by gentle, but steady compression, to push the protrusion back into the pelvis. The relaxed state of the membrane may be corrected by administering regularly every evening an astringent injection, which may remain in the bowel during the night. I usually prescribe the decoction of oak bark, with alum, in the proportion of a scruple of the latter to eight ounces of the decoction, a third of the quantity being sufficient for use. The infusion of rhatany is often used with advantage. From twenty to thirty minims of the muriated tincture of iron, added to four ounces of water, also makes an excellent astringent enema for these cases. The injections should be used cold. If

the bowel should slip down when the patient moves about, mechanical support must be given to the part. A well-fitting rectal supporter, worn constantly for a certain period, will be of great service in maintaining the bowel in its place. When from swelling and thickening of the coats of the rectum the intestine becomes almost fixed in its unnatural position, there is greater difficulty in the management of the case. Continued and pretty strong pressure will be required to replace the bowel. If the struggles of the child should cause much resistance to the efforts of the surgeon, the influence of chloroform will facilitate matters, and have a good effect in relaxing the sphincter, rendering unnecessary the division of the muscle, which has been recommended in cases, both of children and of adults, where much difficulty is experienced in replacing the bowel. When the exposed surface is ulcerated, benefit may be derived from painting the diseased part with a solution of the nitrate of silver. The chief difficulty, however, is to retain the parts after they have been reduced. A good-sized piece of sponge may be lodged at the anus, and firmly secured there by approximating the buttocks, by means of a broad strip of adhesive plaster applied across from one side to the other, and further secured with a T bandage. This will require to be readjusted after every motion. The child should also be kept at rest in bed until the strong tendency to prolapsus has in some measure subsided. Afterwards the usual bandage may be applied, and the patient allowed to move about. In cases of children with stone in the bladder, the prolapsus generally disappears spontaneously after the operation of lithotomy, and the removal of the original cause of the complaint.

In cases of prolapsus in adults, accompanied with

external or internal hæmorrhoids, the contraction that takes place after the removal of the piles by excision, ligature, or in other ways, will often counteract the laxity of the parts, and afford sufficient support to prevent a return of the inversion. The efficacy of this treatment was first made known by Mr. Hey, who published, in his "Practical Observations in Surgery," an interesting series of four cases in which a prolapsus attended with bleeding was cured by excision of hæmorrhoidal excrescences[6]. In severe cases of prolapsus the fall of the rectum may be effectually obviated by an operation which consists in the excision of portions of mucous membrane, and of skin from the margin of the anus. The patient being placed on his back in the position usual in the operation for lithotomy, a fold of membrane, more or less broad according to the laxity of the part, is to be seized with a volsellum, or the hæmorrhoidal forceps, raised a little, and then excised with a curved pair of scissors. Two portions, one from each side of the rectum, will generally require removal, leaving two oval wounds in the longitudinal direction. It is desirable that the edges of the wound should be afterwards brought together with sutures, not only to secure the speedy healing of the wound, but as the compression occasioned thereby helps to arrest bleeding. Unless, however, chloroform be used, there is some difficulty in applying them, in consequence of the forcible contraction of the sphincter excited by the operation drawing in and concealing the wounded parts. The surgeon must be

[6] It has been erroneously stated that Mr. Hey practised this operation only for the cure of descending hæmorrhoidal tumours. In the third and fourth cases narrated there was clearly a prolapsus of the rectum.

careful to tie any bleeding vessel that may be divided, for the operation is very liable to be followed by hæmorrhage, which may go on into the bowel without his being aware of it. An examination with the speculum should be made before the patient is left. Cases in which this operation is called for are not very common. In persons who have suffered from prolapsus in childhood it sometimes happens that the parts do not recover their tone at puberty, and that the complaint continues to prove troublesome afterwards. Such a case is very fit for excision. In 1835, I assisted my colleague, Mr. Luke, in performing this operation upon a lad in the London Hospital. He was nineteen years of age, and had been troubled with prolapsus ever since he was three years old. The bowel always descended several inches when he went to stool, and was a source of great annoyance to him. Two oval portions of mucous membrane were excised from the verge of the anus in the way above described; but the wounds were not closed with sutures. The sphincter immediately afterwards contracted strongly, and completely buried the wounded surfaces. There was no reason at the time of the operation to expect any bleeding; but on visiting the lad in the evening, I was surprised to find him in a state of prostration, with a cold, clammy skin, and shivering. It appeared that on two or three occasions he had discharged a considerable quantity of blood, which had collected within the rectum. Having given him some brandy, I introduced a thick plug of lint, previously oiled, which was effected with some difficulty, owing to strong spasm of the sphincter. There was no recurrence of hæmorrhage, and the two wounds healed up in the course of a month. The operation was quite successful in pre-

venting further prolapsus. If another case of hæmorrhage from vessels at the lower part of the rectum occurred to me, I should insert a good-sized piece of sponge, which expanding as it became moist, would more effectually plug the part.

The operation of excision is also applicable for the cure of prolapsus in women from a weakness of the parts consequent on child-bearing. This weakness is sometimes so great that the fæces, when fluid, escape involuntarily. In these cases, as there is considerable dilatation or elongation of the sphincter, it has been proposed to shorten the muscle by excising a portion of it on each side. The operation is not difficult. The anal ring is to be grasped with a sharp hook or volsellum, and a wedge-shaped portion excised with a small scalpel. The wounds are afterwards to be closed by sutures.

The contraction necessary to prevent the fall of the rectum may be obtained in another way, viz.:—by the application of escharotics, such as the mineral acids or the potassa fusa, at the junction of the skin and mucous membrane, so as to form sloughs of greater or less extent according to the amount of laxity to be counteracted. I have no experience of this treatment, which must, I think, be less effectual and sure than the operation of excision. Guersant, a French surgeon, has recourse to the actual cautery for the formation of the sloughs required, and recommends this treatment for prolapsus in children. It appears that the cautery often caused painful sores which healed with difficulty. The practice is not likely to be adopted by British surgeons.

In many instances, the advanced age or state of the general health of the patient renders an operation of

any kind inadvisable. A proper rectum supporter will help to lessen the inconvenience; and should difficulty be experienced in returning the protrusion, and the patient be obliged to lie down in order to effect it, comfort will be derived from his establishing the habit of relieving his bowels the last thing at night, so that he may retire to rest at once, and remain in a position favourable for the reduction, and prevention of the prolapsus until the morning.

CHAPTER VI.

POLYPUS OF THE RECTUM.

When considering the changes consequent upon hæmorrhoids, I described the hypertrophied folds developed in this disease as sometimes assuming an elongated form, and protruding at the anus. These processes rarely become pedunculated, but spring from the lower part of the rectum, just within the external sphincter, and are usually attached by a broad base. Growths, however, occasionally arise from the mucous membrane of the rectum higher up in the passage, being attached by a narrow and elongated pedicle. A tumour of this kind is called a *polypus of the rectum*. It is rather a rare disease, and occurs generally in early life.

In children the polypus usually makes its appearance external to the anus after a stool, resembling a small strawberry, being of a soft texture, granular on its surface, and of a red colour. It has a narrow pedicle about the size of a crow's quill, and two or three inches in length, by which it is attached to the interior of the

rectum. It produces no suffering, but requires to be replaced with the fingers when protruded, and causes a very slight bloody discharge, which, appearing after every motion, excites some alarm. The description of the complaint given by the mother or nurse is liable to mislead the practitioner, and to induce him to conclude that the case is one of a much more common affection, —viz. prolapsus. The nature of the complaint can be determined only by an examination of the tumour when protruded. I am not aware that a satisfactory examination has been made of the structure of one of these small polypi; but I presume that it will be found to consist of an hypertrophied growth from the mucous membrane, and that they are analogous, in their mode of formation, to the pendulous tumours occasionally developed from the skin.

The treatment of polypus in children is very simple, and always effectual. The tumour should be strangulated by a ligature secured around the pedicle, and then returned within the bowel. This gives no pain, and produces no suffering afterwards, and the polypus separates and comes away with the motions in the course of two or three days. A polypus should not be excised, as bleeding is liable to occur from the cut surface of the pedicle. This happened, in a case operated on by Sir A. Cooper, to such an extent as to occasion alarm. Nor should the ligature be tied so tight as to divide the soft neck, for hæmorrhage has been known to arise from this cause. Mr. Mayo mentions, that in tying a polypus of the rectum in a girl eleven years of age, he drew the ligature so tightly that it cut through the slender pedicle. There was no bleeding at the time, but the following night the child lost a profuse quantity of blood, and came to the hospital the following

day faint and pale, and reduced, from the bleeding[7]. In a case of soft polypus in a boy about five years of age, who was under my care three years ago, the growth being high up in the rectum, I found it impossible to get a noose round it. The child was under the influence of chloroform, but I could introduce only one finger into the rectum to manipulate with, and was unable to drag the polypus out of the gut. It got completely broken down and destroyed under the attempts made to tie it. There was, however, no bleeding of any account at the time or afterwards, and the growth did not return.

The following case will serve to illustrate some of the chief points of practical interest in these cases:— A little girl, of sickly appearance, was brought to me in consequence of a swelling protruding at the anus after stool. The nurse described it as resembling a cherry, and stated that it constantly presented after an evacuation, and often required to be pushed back into the passage. It caused no uneasiness, but was attended with a slight bloody discharge. I was unable to induce my little patient to make any straining effort to cause the body to project, and on introducing my finger into the rectum could feel no swelling of any kind. As the parents resided twelve miles out of town, there was difficulty in getting an opportunity of examining the part after a stool. Apprehending that the case might be prolapsus, I prescribed steel medicines, and directed the tumour to be returned with a piece of soft lint, wetted with a solution of sulphate of zinc. I subsequently ordered an injection of the muriated tincture of iron to be administered daily. After paying me two or three visits, the child was taken to the sea-side for

[7] Outlines of Human Pathology, p. 354.

the improvement of its general health, and brought to me again on her return. Finding that the projection and discharge were not diminished, I made another examination with the finger, but could find no tumour. I ordered a dose of castor oil to be given early in the morning, and the child to be brought to me afterwards. After she had remained in my house an hour or two, the bowels acted, and I then succeeded in getting sight of a dark red vascular tumour, the size of a small cherry, which protruded at the anus, and had a long narrow pedicle. I passed a ligature round this without difficulty, and returned the strangulated swelling into the rectum. No suffering was produced; and in three days the tumour came away at stool, and the child was cured.

Polypus also occurs in the adult, though less frequently than in children. I once examined a pedunculated tumour removed by operation, which was of an oval shape, and the size of a chestnut, and had a firm stem about the diameter of a goose's quill. It had the irregular nodular surface of a cauliflower excrescence, and was composed principally of fibrous tissue. I suspect that this tumour had been present in the rectum from childhood, and had since grown and acquired a firm consistence. A tumour of this kind does not bleed, but protrudes at stool, and occasions a slight mucous discharge. It may be safely removed by ligature.

Mr. Syme has described another form of polypus occurring in adults, which is soft, vascular, and prone to bleed. The profuse, frequent, and protracted bleeding which proceeds from this sort of growth renders its removal an object of great consequence. He states that he removed, from a hospital patient, a tumour not less than an orange, which had a most malignant aspect,

and had nearly exhausted the patient by hæmorrhage. In another case, in which the disease was detected from the great hæmorrhage which it occasioned, he could not accomplish protrusion of the tumour, but guided a ligature on the finger, and tied it on the neck within the rectum [8]. I have not met with any case of this description, which, I presume, must be very rare.

CHAPTER VII.

FISTULA IN ANO.

The loose areolar tissue around the lower part of the rectum is occasionally the seat of abscess, which bursts externally near the anus. But instead of the part healing afterwards, like abscesses in other situations, the walls contract and become fistulous, and the patient is annoyed by a discharge from the opening. Such is the complaint termed *fistula in ano;* and though a very common disease, and one, apparently, of very simple character, there are still some points connected with it respecting which a difference of opinion exists.

The abscess giving rise to fistula sometimes forms with all the characters and symptoms of acute phlegmon, suppuration taking place early, and the matter coming quickly to the surface. In other instances a thickening appears at a spot near the anus with scarcely any sign of inflammation, and but little local pain, and is gradually resolved into a fluctuating swelling, which being opened, discharges a fetid pus. On introducing a probe

[8] On Diseases of the Rectum, 2nd edit. p. 82.

at the external orifice of a fistula formed in either way, it may pass through a small opening in the coats of the rectum into the bowel. The case is then called a *complete fistula*. When there is no internal opening, the complaint is named *blind external fistula*. The external orifice is usually but a short distance from the anus, its situation being often indicated by a button-like growth; and it is in the centre of this red projecting granulation that the opening is found. The aperture, however, is not always so marked, and being very small, a mere slit concealed in the folds of the anus, cannot be detected without careful search. The course taken by a fistula varies a good deal. I have a preparation in which the opening is so close to the margin of the anus that the sinus traverses the substance of the external sphincter,—a course which is not, indeed, very uncommon. The abscess, before breaking or being opened, may, however, have burrowed to some distance, and the external orifice may be placed two or three inches off in the direction of the buttock or perineum.

Fistula in ano arises in different ways. It commonly commences in the areolar tissue, near the anus as a common phlegmonous abscess; the frequent action of the sphincter muscle, and the disturbance of the part in defecation, afterwards preventing the closure of the sac in the usual mode. This does not, however, always happen. Some years ago, I was asked to examine a robust, middle-aged professional friend, who was troubled with an abscess which had recently burst near the anus. I introduced a probe, and found by the finger in the rectum that it passed close to the mucous membrane of the bowel. I stated that he would require the operation for fistula, but requested him to remain quiet,

and wait a week. On my next visit I found the abscess closed, and the part quite sound. Most practitioners have met with similar cases. A sinus formed in this way burrows close to the outer surface of the mucous membrane of the rectum, which forms a thin barrier between the bowel and the sinus. This shortly ulcerates, and thus is formed the internal orifice of the fistula. But this does not invariably take place. I have, in a few instances, met with a fistulous opening near the anus in which no communication with the bowel could be found on the most careful examination. That such a fistula occasionally occurs I have no doubt, notwithstanding the opinion of so high an authority as Sir B. Brodie, who, in a valuable lecture on this subject[9], states that he is satisfied that the inner opening always exists. I have observed one fistula of the kind in the dead body; and a few preparations showing the same fact may be seen in our hospital museums[1]. The abscess may make its way into the bowel before bursting externally, but the inner opening is commonly formed subsequently to the outer, and is small in size. When a fistula originates, as I believe it most commonly does, in the way above described, there is a sensation of weight about the anus, swelling of the integuments, considerable tenderness on pressure, pain in defecation, and constitutional disturbance, with rigors. These symptoms are relieved after the matter is discharged. The congestions to which the hæmorrhoidal veins are very liable, I have no doubt is the principal cause of the abscesses in the vicinity of the anus, inflammation and its consequences being readily

[9] The Lancet, 1843-4, vol. i. p. 592.

[1] Vide preparations numbered 35 and 46, series xvi. in the Collection at St. Bartholomew's Hospital.

produced in parts so favourably formed for such disease.

A sore formed in the little pouch, just within the external sphincter, and originating in the irritation to which this part is liable, instead of spreading superficially, sometimes perforates the bowel, and allows the escape of a little fæculent matter into the areolar tissue around it. I attended with Dr. Ashwell a young married lady, who had an affection of the rectum. On examination with the speculum, we detected an ulcer of the mucous membrane at the lower and back part of the rectum. A fortnight afterwards an abscess pointed near the anus, and ended in a complete fistula, which opened internally at the seat of the ulcer. A very similar case is related by Sir B. Brodie. Two years ago I operated for fistula on a patient of Mr. Arthur, of Shadwell, a married woman, who had suffered from the complaint more than usual. The wound healed in a fortnight; and on examining the part carefully, in consequence of her still suffering considerable pain, especially after defecation, I detected an ulcer at the back of the rectum, a short distance only from the inner opening of the fistula. Mr. Arthur attempted to cure this by different applications, but without success; and at the end of a month I divided the ulcer and sphincter muscle, after which the sore healed. In this case it appears that two separate ulcers formed in the rectum. One perforated the bowel; the other remained a painful superficial sore. Again: ulceration induced by an internal pile, and more rarely by a pointed foreign body, as a fish-bone sticking in the mucous membrane, may produce perforation, and a rectal abscess. I recently operated on a fistula originating in the impaction of a fish-bone,

which had produced very extensive suppuration in the buttock and perineum. In all these cases the inner opening is found just within the external sphincter; indeed, in whatever way a fistula originates this is the most usual situation for the orifice. This point was established some years ago by M. Ribes[2], who examined a large number of bodies in order to ascertain the precise situation of the inner opening. In seventy-five subjects he never found the opening seated higher in the rectum than five or six lines: in a certain number it was only three or four lines up. M. Ribes' observations clearly show that the inner opening of the fistula is, in a large majority of cases, a very short distance only from the margin of the anus, and are fully confirmed by Sir B. Brodie, who, indeed, goes so far as to say,—"the inner orifice is, I believe, always situated immediately above the sphincter muscle, just the part where the fæces are liable to be stopped, and where an ulcer is most likely to extend through both the tunics." This, however, I have by no means found to be so constantly the case. I have examined several patients with fistula, and inspected the parts in others after death, in which the opening into the bowels was more than an inch above the external sphincter. There are several preparations of the kind in the London Museums.

Fistula occurs in phthisical subjects, originating in ulceration of the mucous membrane, and perforation of the bowel. In these cases the inner orifice is usually large in size, and there is sometimes a second opening. It is somewhat remarkable that Andral and Louis

[2] Quarterly Journal of Foreign Medicine and Surgery, vol. ii. 1820.

should have found this complaint very rarely indeed in phthisis, when all surgeons in this country agree that fistula is by no means of unfrequent occurrence in patients afflicted with tubercular disease of the lungs. The abscesses originating in ulceration of the mucous membrane often form insidiously, patients suffering but little constitutional disturbance, and scarcely any local uneasiness, until the abscess is near the surface, and about to burst. In other instances the symptoms are severe: there are rigors, and considerable febrile derangement, sometimes of the low type, attending the formation of fetid abscesses.

Though the inner orifice is very commonly found just within the external sphincter, communicating with one of the little sacs situated at this part, the fistula itself often extends some distance up the side of the rectum, as much as two or three inches, or even higher; and it may burrow in different directions. Formerly, surgeons, in examining patients, not being able, on passing the probe up these sinuses, to find any opening into the rectum, used erroneously to conclude that there was no communication with the bowel,—that the fistula was a blind one: but since the anatomy of the disease has been better understood, and greater pains have been taken in the examinations, search being made in the right direction, an inner opening has generally been detected. When the sinuses are tortuous or pass in different directions, there is sometimes more than one inner opening. There may be one in the usual situation, and another higher up, or on both sides of the rectum, with an indirect communication between the sinuses. Sometimes there is an external orifice on each side of the anus leading to fistulous passages, which pass to the back of the rectum, and communi-

cate with the gut at this part by a single orifice, so as to form a sort of *horse-shoe fistula*. The matter is liable to lodge in these complicated sinuses, to give rise to inflammation, and to lead to fresh abscesses and additional fistulous passages. When the disease is of old standing, the sides of the fistulous passages are often dense and callous, feeling gristly to the finger. In all cases of complete fistula the occasional escape of a little fæculent matter into the passage would be amply sufficient to prevent the part healing, even if the actions of the levator and sphincter ani, and the movements of defecation, did not also interfere.

A fistula in ano is at all times an annoying complaint. Even when the seat of disease is free from all inflammation and tenderness, the patient is troubled with a discharge which stains the linen, and keeps the part uncomfortably moist. The discharge is usually a thin purulent fluid; at other times it is thick, and tinged brown, from admixture of fæculent matter. The discharge is more or less copious in different cases,—a circumstance depending very much on the extent of the sinuses: it also varies at different times. It occasionally becomes so thin and scanty, that the patient begins to think that the fistula is about to close, when he is disappointed by fresh irritation being set up, and the complaint becoming as annoying as ever.

Fistula in ano is a disease of middle life, and occurs more frequently in men than in women. It is occasionally met with in young children, but rarely forms in advanced life, which is, probably, partly owing to the laxity of the rectum and sphincter in old people rendering the mucous membrane less liable to irritation and injury, and partly to the relief obtained by discharges from the hæmorrhoidal veins when congested.

The treatment necessary during the formation of the abscess which precedes the establishment of a fistula is rest in the recumbent posture, fomentations or the hip bath, a poultice to the part, and mild laxatives. Leeching does not prevent suppuration taking place, and weakens the patient unnecessarily. As soon as fluctuation can be felt, the prominent or central part of the abscess should be punctured freely, to prevent the matter burrowing in the loose areolar tissue, and thus to limit the extension of the sinuses. The local treatment must afterwards be continued until inflammation has subsided, and the suppurating sac has become fistulous and indolent. An examination may then be made. For this purpose I use a probe-pointed steel, or silver director, slightly curved, with the groove carried quite to the extremity, and a flat handle. The patient can be examined lying on the side, or leaning over a table opposite a good light. The director, held lightly in the hand, being inserted at the external orifice, is to be passed along the sinus, the oiled forefinger of the left hand being afterwards introduced into the rectum: the surgeon is then to search with care for the inner opening in the usual situation just within the sphincter. The point of the instrument having slipped into the rectum, comes in contact with the finger. The probe should always be passed into the fistula before the finger is introduced into the bowel; for if the finger is inserted first, the distension of the rectum may interfere with the operator's tracing the exact course of the fistula with the probe. It is not always easy to find the opening into the rectum. If the surgeon fail, he must repeat the attempt a second or a third time, until he has found the aperture in the mucous membrane, or has satisfied himself that none

exists, being most careful to avoid using the slightest force. This is especially necessary in examining tortuous sinuses passing up the side of the rectum; for the areolar tissue yields so readily, that without care a passage may easily be made where none existed before. The inner opening may sometimes be detected by introducing the speculum, and exposing the mucous surface in the vicinity of the fistula, and then injecting a little chalk mixture or milk at the outer orifice. The appearance of the white fluid at a spot in the mucous membrane indicates the situation of the aperture towards which the surgeon may guide the probe. It has been proposed to inject the tincture of iodine whilst the surgeon's finger is in the rectum. The stain of iodine on the finger would indicate the site and depth of the inner opening. It may be objected that the tincture of iodine is liable to produce pain and irritation in the fistula.

The cure for fistula is by operation—a division of the parts intervening between inner and outer orifices, including the fibres of the external sphincter. The operation is not a severe one, and, unless the patient is a sensitive timid person, I do not employ chloroform. If chloroform be given, the patient must be placed upon the side; otherwise, the operation may be performed with the body bent over a table. An aperient should be given, so as to obtain relief from the bowels a few hours before the operation. The director having been carried into the rectum in the manner above described, its point in a thin person may often be made to appear at the anus. A strong curved bistoury with a rounded extremity having a cutting edge is to be carried along the groove of the director, and the parts between the two

openings are to be rapidly divided by an incision which gives little more than momentary pain. The form of the bistoury is not unimportant. In those which are in common use, the blunt end, as it reaches the shallow part of the groove at the extremity of the director, comes in contact with parts to be divided, and as these are often tough and resisting, they can only be riven by the use of force. With the bistoury figured above, these structures are easily divided by the sharp cutting edge, especially if the surgeon uses a sawing motion. In stout people, especially males, and in cases where the internal orifice is somewhat higher than usual, it is necessary to introduce a speculum before performing the operation, in order to guard the opposite part of the bowel from injury. In ordinary cases, the left fore-finger will be sufficient for the purpose. After the incision, a piece of soft lint may be placed between the edges of the wound to stop the bleeding, which is usually, in the common operation for fistula, of slight extent. An opiate will keep the bowels quiet for a couple of days, and then a mild aperient will be required. A little bit of wet or oiled lint may be passed gently to the bottom of the wound after each evacuation. If the sore be slow in healing, the lint may be dipped in a slightly stimulating solution. This is the only application necessary. The wound commonly closes readily by granulation, and the functions of the sphincter are unimpaired. In old cases of fistula, the hardened walls of the sinus offer considerable resistance to the knife. The surgeon should not, therefore, use too slender a bistoury, for fear of the blade breaking. It is advisable, also, after the division of the parts between the two orifices of the fistula, to incise its posterior wall, which may be done by turning the blade of the

bistoury round. This is not necessary in recent cases; but in those of old standing, in which the walls of the sinus are but little disposed to granulate, this second incision tends to set up a healing action, and to facilitate the cure.

In those cases in which sinuses run for some distance up the side of the rectum, it was supposed, until recently, that these passages could not be obliterated without being laid open in their whole extent; and accordingly the parts were divided high up, and a severe operation performed, at the risk of serious hæmorrhage, which it was at all times difficult to arrest. In consequence of the inner opening not being sought for in the right direction, a complete fistula was often mistaken for a blind external one; and therefore, in operating, an artificial opening was made above a natural one which had escaped detection; so that not only was a larger division of parts effected than was really required, but, owing to the inner orifice below not being included in the incision, the operation not unfrequently failed. The observations of M. Ribes were consequently of great service in leading surgeons to search for the opening into the bowel near the sphincter instead of at the extremity of the fistulous sinus, and in showing that the inner orifice was present far more frequently than was commonly supposed. The improvements in the treatment of fistula which naturally sprung from these observations were early carried out, and have been strongly advocated by Mr. Syme, of Edinburgh, in his book on Diseases of the Rectum. Similar views of practice have also been enforced by Sir B. Brodie, in the Lecture already referred to. These eminent surgeons have shown that, when a fistula passes for some distance upwards along

the side of the rectum, it is not necessary that it should be divided in its whole extent; and that, if the parts intervening between the inner and outer openings below be freely cut through, the sinus above will probably close, and the patient be cured by a simple and slight operation.

In cases of blind external fistula, in which the surgeon is satisfied, by a sufficient examination, that there is no internal orifice, the point of the director should be carried to that part of the fistula which is close to the mucous membrane of the rectum, and made to bear steadily against the end of the finger until the membrane is perforated, care being taken that sufficient support is given by the finger to prevent the bowel being in any degree detached from the neighbouring structures by the pressure of the director. The intervening parts can then be divided, as in complete fistula. The spot where the membrane is denuded will generally be found a short distance only above the external sphincter. We read in books of *blind internal fistula*, in which an opening into the bowel leads to a fistula without any external orifice. Such cases are but rarely met with in practice: the external opening sometimes closes for a short time, the spot being indicated by redness and induration; but sooner or later it reopens, and the discharge returns, or a fresh opening is formed at some little distance off. It may happen, however, that the original ulcerated opening in the rectum being large, the matter from the abscess formed in the areolar tissue outside finds its way so readily into the bowel, that the abscess does not burrow towards the surface. This is not a common case. The situation of the suppurating cavity may be

ascertained externally by a sort of hollow, or indistinct fluctuating feel. When this is the case, a bistoury plunged into the sac will render the fistula complete, and it may then be treated in the usual manner. The sinus communicating with the rectum does not always correspond with the outer orifice, or opens into a sinus in the buttock passing at an angle to it, so that a probe introduced at the external opening traverses the buttock, but cannot well be made to enter the upper sinus. In such a case the surgeon is liable to conclude that the fistula is confined to the buttock, and does not implicate the rectum. An incision laying open the lower sinus will expose the entrance of the one running up to the bowel, and set the surgeon right. In cases where the matter burrows in the buttock, and comes to the surface some two or three inches or more from the anus, it is not always necessary to lay this sinus open for its whole extent, which would be a severe operation. Using the probe end of the director as a guide, the surgeon may make an external artificial opening into that part of the fistula which is near the anus, and then divide the structures between this orifice and the internal one in the usual way, by which means, the communication with the outer part of the fistula being cut off, it closes without difficulty, whilst the internal wound heals by granulation from the bottom.

When the opening in the rectum is more than an inch and a half above the external sphincter, the division cannot be made without risk of hæmorrhage, which the surgeon may find great difficulty in arresting —indeed, death from bleeding has happened after the division of a rectal fistula high up. The hæmorrhage

may go on without the patient being aware of it, no blood escaping externally to cause alarm. He feels perhaps weak or faint, experiences uneasiness in the rectum, and a sense of fulness which at length obliges him to go to stool, and then he passes a quantity of blood which has gradually accumulated in the bowel. The most effectual mode of stopping bleeding from a deep wound near the rectum is to plug it with sponge. Some small pieces may be pushed to the bottom of the wound with a probe. As the sponge gets moist, it swells and makes sufficient pressure on the divided vessels to arrest the bleeding. The plugs need not be disturbed for several days, and means must be taken to keep the bowels confined for that period. The bits of sponge, if pressed well into a wound, are liable to adhere to the parts, and to be difficult of removal. This may be obviated by previously oiling the surface of the sponge.

Cases in which the rectal opening is deeply seated are best treated by a ligature, which, if properly applied, and very gradually tightened, answers very well, and is less tedious and painful than is commonly supposed. The application of the ligature to fistula, though often practised formerly, is now seldom resorted to, the knife being found a less painful and tedious mode of curing the disease. Some years ago, my colleague, Mr. Luke, devised an ingenious screw tourniquet for gradually increasing the tension of the ligature. A strong cord of dentist's silk having been carried through the fistula by the introduction of an eyed probe with a moveable extremity, and withdrawn at the anus by means of a spring catch passed into the rectum upon the fore-finger of the operator, is to be attached to the screw

apparatus, and secured with moderate tightness, but not so as to cause pain[a]. The tension of the ligature is afterwards to be very gradually increased by turning the screw as it gets loose, until the cord cuts its way out. While this process of ulceration is proceeding, the gap behind becomes filled up by granulations; so that, in a day or two after the removal of the ligature, the fistula is found to be cured. An elastic ring of india-rubber attached to the ligature, secured by a tape passed through it to a waist-band, or some other fixed point, and tightened when necessary, would answer the purpose equally well with the screw tourniquet, and be a simpler proceeding. Though the treatment by ligature in this way is safe, and nearly free from pain, and admits of the patient moving about, the application of it gives more trouble than division of the parts by the knife. Incision is preferable, therefore, in ordinary cases; but, in cases of fistula opening so high up in the rectum that the knife cannot be used without danger of hæmorrhage, I should certainly employ the ligature. Such cases, I know, are not common in practice, but they do occasionally occur, and some have fallen under my notice. I witnessed the treatment by ligature of two of Mr. Luke's cases, in one of which the internal opening of the fistula was two inches above the anus, and the other as high as the point of the finger could reach.

It is difficult to describe the treatment required in the different forms of complicated fistula; so much depends on the peculiarity of each case, no two being

[a] The instruments are described and figured in the "Lancet," vol. i. 1845, p. 222.

ever exactly alike. In the *horse-shoe* fistula, a free opening into the rectum on one side will sometimes be sufficient, the outer opening of the sinus on the other side being dilated so as to allow a free escape of any pent-up matter. In several instances, however, I have had occasion to perform the operation on both sides, and with perfect success in curing the sinuses. After the double division of the sphincter the patient may be unable to retain liquid fæces; but this need not cause uneasiness, for I have always found that when the wounds became healed, and sometimes even before, the functions of the muscle were restored, and no permanent inconvenience resulted from its division on the two sides. When there are two internal orifices on the same side, it is desirable, if possible, to include both of them in the incision, or, after the upper one has been divided in the usual manner, to lay the lower opening into it. If the interval between the two inner openings be great, one being situated high up, it will be as well to operate from the lower one, after which the free passage of the fæces and inactive state of the sphincter may allow of the upper opening and sinus closing, though this cannot be at all relied on. When an inner opening exists on both sides of the rectum, with only one external orifice, the usual operation may be performed at the side on which the outer opening is situated, taking the chance of the other internal aperture closing spontaneously. Should this not take place, a second operation can afterwards be done on the other side. In these complicated cases the condition of the patient's health often precludes the performance of any operation. In advanced cases of phthisis no judicious surgeon ever ventures to use the knife. At an early stage of the disease benefit is

sometimes derived from the operation. A fistula connected with a carious state of the ischium or sacrum is also unfit for operation. Sinuses in the perineum are sometimes found to open into the rectum as well as into the urethra, and the communication allows the escape of gas, and sometimes of thin feculent matter, into the urinary passage, to the great annoyance and distress of the patient. These sinuses originate in inflammation and abscess of the prostate gland, and do not belong exactly to the diseases of the rectum. To obtain a cure, the fistulous passages require to be freely laid open into the bowel, and the wound must afterwards be dressed from the bottom with lint. The outer orifice of a simple fistula in ano is sometimes seated in the perineum so far in front of the anus, and directly in the course of the urethra, as to lead to the suspicion of its being an urethral instead of a rectal fistula. But as no urine escapes from the orifice when the patient makes water, and as a probe takes the direction of the anus, the nature of the case is easily ascertained, and after laying open the fistulous passage in the perineum, the surgeon is able to trace the sinus leading into the rectum.

A few years back I was consulted by a young married woman who had not only a fistula which opened by the side of the rectum, but another which communicated with the vagina, and a third that opened at the lower part of the labium. So much feculent matter passed into the vagina that it was evident the communication between it and the rectum was pretty free. Though in a miserable condition, she would not consent to undergo an operation, and I lost sight of the case. In a case of this kind, if both the sphincter ani and the sphincter vaginæ are divided, it is found that the

patient loses the power of retaining her fæces. Sir B. Brodie states that a lady consulted him with a fistula communicating with the rectum in front, and opening externally just at the beginning of the vagina. He merely made a free division of the sphincter ani on both sides, so as to set it completely at liberty. The discharge from the fistula gradually diminished, and, some five months after the operation, the fistula appeared soundly healed. I intended to have adopted a somewhat similar plan in the case above alluded to, but the large size of the opening into the vagina would, I expect, have rendered some further proceeding necessary.

Mr. Copland has the credit of having first practised the division of the external sphincter for the cure of fistulous communications between the rectum and vagina. The proceeding is applicable to another class of cases, to which I may here briefly allude. The extremity of the septum between the vagina and rectum occasionally becomes lacerated in labour, the patient being afterwards unable to retain her fæces, especially when liquid. The cure of this distressing infirmity may be effected by paring the edges of the gap, and, after division of the external sphincter on each side, bringing them together with sutures. Opiates should be given to keep the bowels at rest for five or six days, at the end of which period they should be acted on by castor oil and a warm water injection so as to ensure soft motions. The sutures may be taken out on the third or fourth day. The operation does not always succeed, but the double division of the sphincter much lessens the chances of failure.

CHAPTER VIII.

CHRONIC ULCERATION OF THE RECTUM.

My inquiries into the morbid anatomy of the rectum have brought under my notice many instances of ulceration of its mucous lining, not only in cases of dysentery, and as a consequence of the ordinary diseases of the part, such as stricture and cancer, but sometimes as a separate affection. In several specimens which I have examined, ulceration was diffused over a considerable extent of surface. I have observed the whole of the lower part of the rectum stripped of its mucous membrane for a distance of two or three inches. This extensive disease is sometimes, indeed generally, attended with thickening and consolidation of the subjacent tissues, without diminution in the calibre of the bowel. The muscular coat is in some instances hypertrophied. In one case, the mucous coat for a short distance within the sphincter was so riddled with holes as to form, as it is described in the post-mortem book, "a perfect cribriform tissue," the submucous tissues being at the same time much thickened. I have seen the mucous membrane ulcerated in patches, the sound portions being in some places detached from the muscular fibres beneath, so as to form bridges more or less broad, or merely some narrow bands or bridles. There were frequently abscesses in the thickened tissues around the diseased rectum, and fistulous passages opening externally. In two instances ulceration had

produced a perforated opening communicating with the peritoneum, death having been caused by the escape of some feculent matter into the abdomen, and inflammation of the serous membrane. In other cases the peritoneum was involved in the consolidation, and inflamed without being perforated, the omentum in one case being adherent to the anterior part of the rectum.

The history of these cases of ulceration was not always sufficiently clear to enable me to trace the origin of the disease satisfactorily: but in numerous instances, it resulted from dysentery, many of the sufferers having recently returned from warm climates, or been exposed to hardships at sea. They were all cases of a chronic character, the morbid parts having been taken from subjects who had suffered for a long period from a complaint of the lower bowel. In a few of the cases it seemed probable, from what could be gathered of the history, that there had been chronic inflammation of the coats of the rectum, and ulceration, which had been aggravated, if not produced, by the improper and rough use of bougies for some slight or supposed contraction of the passage. Some years ago I had a woman, aged seventy-nine, under my care, who had unequivocal symptoms of ulceration high up in the rectum. She had suffered from disease of this part for more than fifteen years, and about eight years before had been treated for stricture by a hospital surgeon, who occasionally passed bougies for upwards of two years: yet, upon a recent examination, I could detect no contraction in the bowel, but the mucous surface high up felt rough and irregular. That important diseases of the rectum may be induced by the introduction of instruments, as bougies and clyster-pipes, I have found ample

proof; and my experience of the mischief which has been caused by them leads me not only to enjoin the necessity for care and gentleness in so familiar an operation as the passage of a pipe for the administration of injections, but also to deprecate the practice of permitting patients to introduce bougies for themselves, which I know is often sanctioned by the medical adviser, and, I fear, is sometimes recommended in cases where there is little necessity for their employment. In treating of stricture, I shall adduce examples of the serious injuries which patients have been known to inflict upon themselves in this way. There can be no doubt that, in a rectum rendered irritable by drastic purgatives, or acrid secretions and evacuations, abrasion of the mucous surface by a clyster-pipe or indurated fæces would be sufficient to excite ulceration and generate chronic inflammation. Writers on the Continent have noticed ulcers of the rectum of a syphilitic character, resulting from direct inoculation. No case of the kind has fallen under my observation, and I trust that it is a form of the primary disease very rarely met with in this country. A few years ago, the late Mr. Avery exhibited at the Pathological Society a specimen of ulceration of the rectum, the history of which clearly showed the connexion of the lesion with syphilis, and its probable occurrence as one of the secondary phenomena of the disease. Immediately within the anus, which was surrounded by a circle of vegetations, the ulcer commenced, extending three inches upwards, and occupying the whole of the internal surface of the rectum to that extent. The edges were rough and uneven above, and below soft and rounded; the whole surface was smooth, exhibiting the muscular fibres of the intestine quite bare. The patient, a young woman, aged

twenty-two, died in the Charing Cross Hospital from erysipelas of the face, and had been troubled with a discharge from the rectum for about seven months previously. She had been in the hospital a year and a half before with an extensive sloughing ulcer in the fourchette. When she died, she had numerous indelible marks of syphilitic eruption on the limbs and trunk, and was suffering from sore-throat[1]. The case is one of considerable practical interest. By far the greater number of specimens of chronic ulceration which have fallen under my observation were from the bodies of females.

The chief symptoms which may be considered as referable to chronic ulceration of the rectum are—a purulent discharge from the anus, more or less copious; motions generally loose, and mixed or coated with a slimy fluid, and streaked with blood; soreness in passing stools, and occasionally tenesmus. The pain, however, in defecation varies considerably, being in some cases severe, and in others very trifling. Indeed, it is surprising, how little suffering is often caused by the actions of the rectum and passage of the fæces, in cases of large ulceration of the mucous surface. The old lady, to whose case I have briefly alluded, had very little uneasiness in passing her stools; and Mr. Avery's patient, though affected with extensive disease, suffered very little pain, but she was troubled with a copious discharge. The surgeon, on examination with the finger, will be able to distinguish a rough uneven surface, and frequently hardness and consolidation of the walls of the rectum. The ulcerated surface, if in the

[1] Transactions of the Pathological Society, vol. i. p. 94.

lower part of the bowel, could be readily recognized on examination with the speculum.

The treatment suitable to this disease is the application of mild stimulating ointments, or of a weak solution of the nitrate of silver to the ulcerated surfaces; anodyne ointments, or anodyne injections with mucilage in painful cases; due regulation of the bowels; a bland diet; and such constitutional means as the general symptoms may seem to demand. The remedies which I have found of most service in giving relief, have been the nitrate of bismuth with anodynes and sometimes magnesia; and the sulphate of copper with opiates. I shall not dwell, however, on the treatment of cases, in the management of which, in the early stage when they might be expected to yield most readily to remedies, I have had little experience. My chief object, in this chapter, has been to invite attention to a class of cases, which, in an advanced stage, appear to have been sometimes overlooked in practice, or to have been mistaken during life for a different disease.

CHAPTER IX.

STRICTURE OF THE RECTUM.

The rectum, like other mucous canals,—as the œsophagus and urethra,—is liable to obstruction from a contraction of its walls, forming the disease called *stricture*. In some cases, the contraction is very limited in extent, and the stricture is then termed *annular;* in others, it includes a portion, more or less considerable, of the

coats of the bowel. On anatomical examination, the mucous membrane involved in the contraction is found tumid, thickened, and usually in some degree congested. This membrane is closely adherent; and, when carefully dissected off, the submucous areolar tissue is observed to be condensed—to consist of close-set fibrous tissue, sometimes for a limited extent, as in annular stricture, where it surrounds the gut, and lengthwise gradually blends with the healthy areolar tissue above and below, but more frequently forming a callous indurated mass from half an inch to two or more in length. This thickening is occasionally confined to part only of the circumference of the rectum, or is greater on one side than on the other, contracting the canal irregularly, and forming a winding passage: or the induration, instead of being limited to a small portion of the bowel, may involve the greater part or the whole of the gut. In several specimens of the disease which I have examined, the calibre of the rectum was thus diminished in various degrees. In the Museum of King's College there is a preparation showing great thickening and consolidation of the entire walls of the rectum, with hypertrophy of the muscular coat, and considerable narrowing of the passage. The peritoneum investing the contracted bowel generally retains its healthy structure and appearance. Writers have described a form of stricture of the rectum produced by bands stretching across the canal. No instance of the kind has fallen under my observation; and I suspect that the bands were merely broad folds of the mucous membrane, which were supposed to intercept the passage.

Above the stricture the rectum is commonly dilated

and thickened. The enlargement results, not from a yielding of the coats, but a general hypertrophy of the intestine, and particularly of the muscular coat, the fibres of which are remarkably large and distinct. The mucous membrane at this part is rarely healthy. It is generally red from capillary injection, and extensively eroded or ulcerated, the diseased surface supplying, during life, a purulent discharge. There may be ulcerated apertures leading to fistulous passages which extend for some distance, and open externally near the anus, or as far off as the buttock. In the body of a woman who had a close stricture in the rectum an inch from the anus, in addition to a large ulcer in the bowel above the contraction, I found a fistula communicating with the vagina. There may be but little alteration in the bowel below the stricture, but it is generally in some way diseased. There is frequently diffuse ulceration of the mucous membrane, and sometimes hæmorrhoids, or a complete fistula in the usual situation near the anus. Sinuses may exist burrowing in different directions amongst the thickened tissues around the lower part of the bowel.

The changes above described originate in chronic inflammation of the mucous and submucous areolar tissue of the rectum, either limited in extent, or affecting the greater part of the intestine. It is seldom possible to fix on the exciting cause in a particular case; but the part is exposed to so many sources of irritation, from unhealthy and acrid secretions, the lodgment and passage of hardened fæces, injuries from foreign bodies, as fish-bones, &c., the disturbance produced by undue muscular action in tenesmus and forcible defecation, that the occurrence of a slow in-

flammation of the coats, ending in contraction, cannot be viewed with surprise. Women, in whom the disease is more common than in men, have sometimes ascribed its origin to a difficult labour, by which, there can be no doubt, injury may be inflicted on the bowel, so as to lay the foundation for chronic disease. In a case of close stricture quite at the lower part of the rectum in a woman recently under my care in the London Hospital, the disease originated in an injury of the part from a severe kick inflicted four years previously.

Although strictures of the rectum are generally produced, as I have described, by chronic inflammation chiefly of the submucous areolar tissue, without any breach in the mucous surface, they also originate in another way—viz. in the contraction consequent upon the healing of ulcers or wounds in the bowel; and I believe that this takes place more frequently than is generally supposed. That ulceration of the rectum is a common disease, I have shown in the preceding chapter; and it is clear, that sores of any extent would be sure to produce some amount of contraction in the process of healing. In cases of stricture, so much disorganization of the rectum takes place before death, that we are rarely able to determine, by careful examination afterwards, the primary cause of the contraction. This disease, however, has been distinctly traced to arise after an attack of dysentery, in which there was reason to conclude that the rectum had suffered; and two cases, in which chronic ulcer in the rectum had been followed by contraction to such a degree as to prove fatal, have been recorded by Cruveilhier[5]. It seems obvious, that

[5] Anatomie Pathologique, livraison xxv.

cicatrization and contraction would be more likely to arise, in cases of ulceration where the remaining coats of the bowel and parts around were healthy and yielding, than where there was much thickening and condensation of the subjacent tissues; and perhaps, this may partly account for the circumstance that, in such extensive disease as I have described in the foregoing chapter, there was so little attempt at repair, and scarcely any diminution in the calibre of the intestinal canal. Injuries of the rectum causing a breach in the mucous surface have in several instances produced contraction of the rectum. There is a preparation of much interest in the Museum of St. Bartholomew's Hospital, taken from a child five years old. Ten months before death, in the endeavour to administer an enema, a clyster-pipe was forced through the adjacent walls of the rectum and vagina. At the part thus injured there is a small depression in the wall of the vagina, and a long, pale, and irregular cicatrix in that of the rectum. Near this cicatrix, also, there are traces of small healed ulcers of the mucous membrane of the rectum. Just below the cicatrix, at a distance of about an inch from the anus, the canal of the rectum is reduced to an eighth of an inch in diameter, and the adjacent tissues are indurated. Above this stricture the intestine is greatly dilated.

Some difference of opinion exists respecting the seat of a stricture in the rectum. It varies, but is usually at the lower part of the gut, about two inches from the anus, and easily within reach of the finger. The point at which the sigmoid flexure terminates in the rectum, which naturally presents a slight contraction, is not

unfrequently the seat of stricture. If this part be loosely attached, the weight of the fæces accumulating above the stricture, and the violent straining of the patient, may force the contracted part low enough to be reached with the point of the finger introduced at the anus, the descent taking place in the form of a slight inversion of the bowel. A man with a stricture at this point was under my care in the London Hospital in 1850. The case was remarkable from the extraordinary dilatation which the bowel below the stricture had undergone. The finger seemed to pass into a capacious sac, at the fundus of which the contracted aperture of the intestine could be felt projecting.

Stricture of the rectum is a disease of middle life. It very seldom occurs in children, unless, as in the case related in the preceding page, where it was the consequence of injury. A few years ago, a girl, aged eleven, died in the London Hospital from stricture and ulceration of the rectum, the history of which I have not been able to trace. This is the earliest age at which I have met with the disease. It is rare, also, in old people. Most of the cases that have fallen under my notice have been between the ages of twenty and forty, and three-fourths were women.

The earliest symptom of stricture is, generally, habitual constipation, with difficult defecation when the motions are solid. The difficulty being readily relieved by a solvent purgative, the nature of the case is not usually suspected at this early period. As the contraction increases, the constipation is with difficulty overcome, and the patient acquires the habit of straining to relieve the rectum. The stools are observed to be small in calibre, and are often voided in small

lumps[6]. The mucous surface, irritated by the disturbance in the functions of the rectum, becomes inflamed and excoriated. This renders the actions of the bowels painful, a burning sensation lasting frequently for an hour or more after a stool. There is also a secretion of brown slimy mucus, which escapes with the motions, and soils the linen. The gases evolved in the intestines not escaping readily, give rise to flatulent distension of the abdomen, and disagreeable efforts for relief. The bowels often remain constipated for days together, and then a strong cathartic softens the motions, and enables the patient to void the accumulated mass, its passage being attended with pain. In other instances, the patient is teased with frequent evacuations, fluid, and small in quantity. As the disease makes progress, the mucous membrane ulcerates; the discharge becomes purulent and bloody, and the sufferings are much increased, the passage of motions being sometimes likened by the patient to a feeling as if boiling water were passing through the rectum. At this period, pain is often experienced in the sacrum. There is sometimes so copious a discharge as to mislead the practitioner, the stricture being overlooked, and the case treated as one of protracted diarrhœa. A slimy fluid perhaps escapes when the

[6] I give no account of the small, or flat tape-like, or figured fæces described by writers as characteristic of stricture, as I do not ascribe much importance to these appearances. When the bowels are irritable, and act frequently, persons with a healthy rectum will pass small and figured fæces; and an irritable sphincter likewise influences the size and shape of the motions. Besides there is no necessity to pay much attention to an uncertain symptom, when an examination with the finger can so readily determine the real condition of the part.

patient rises in the morning; and may, also, occur when he coughs or sneezes. The ulceration often leads to abscess and fistula, feculent matter being forced, or finding its way through the ulcer into the areolar tissue around, and exciting inflammation and suppuration. Fistula in ano, and sinuses in the buttocks or labia are, indeed, common complications of strictured rectum, especially in long-standing cases.

The appetite often remains good, and even the general health but little impaired, for a long time. The disease is very chronic in its progress; and so long as a passage for the motions can be obtained, though with difficulty, the patient continues following his avocations, suffering more or less at different periods. Indeed, it is surprising how great a length of time the general health will sometimes continue without being materially affected, even in cases of close contraction of the gut. The derangement of the digestive functions, and irritation kept up by the disease, in the course of time, however, undermine the constitution, and bring on hectic symptoms. The appetite at length fails; there is sometimes urgent thirst; the body emaciates; night sweats become profuse, and the stricture directly or indirectly becomes the cause of death. This is sometimes hastened by a lodgement of hardened fæces, or of some foreign body, just above the stricture, so as to block up the passage, and occasion all the ordinary symptoms of internal obstruction, with the death of the patient after many days' constipation. I know of several instances in which an occurrence of this kind first led to the detection of the complaint. In a patient whose motions are habitually soft, the stricture may make considerable progress without suspicion being excited of the existence of any important disease. He

may continue for months subject to occasional constipation and derangement of the bowels, and passing fæces of small size, but experiencing no further inconvenience until a sudden stoppage, and an examination of the rectum, reveal the presence of a serious stricture. The following case shows how slight may be the discomfort produced by a considerable contraction in the passage for the fæces:—A gentleman, of middle age, called on me one day in the autumn, complaining of inability to pass his stool, and of great pain from some obstruction at the anus. On examination I found a hard, rigidly-contracted anus, scarcely capable of admitting the point of the little finger, and a solid body impacted in the opening. Grasping this with a pair of forceps, and using some force, I extracted a plum-stone. On inquiry, I learnt that my patient had been operated on about two years before by a surgeon at the west end of town for some kind of growth at the anus, since which the orifice had remained contracted. His evacuations had been small in calibre, but he had experienced no difficulty in passing them, and previous to the obstruction described had not been troubled in any way. The suffering in stricture much depends upon the condition of the mucous membrane. When it becomes excoriated and ulcerated early, there is generally more distress in the after progress of the disease, and greater difficulty in conducting the treatment.

The symptoms of fully-formed stricture in the rectum are so clearly marked that the surgeon can generally predicate correctly the nature of the disease. He will desire, however, to have his opinion confirmed by a tactile examination. On exposing the part, small flattened excrescences are usually observed at the margin of the anus, especially when the stricture is

seated near the outlet. These cutaneous growths resemble collapsed piles, except that they are redder in colour, and are kept moist by the escape of a thin discharge from the bowel. They originate in the irritation kept up by this discharge. The finger, well greased, being passed carefully and gently into the rectum, will be arrested on reaching the stricture, so that the point only can enter. If the contraction be somewhat recent, and not very close, the surgeon may gradually dilate the part, and, with a gentle boring motion of the finger, penetrate the stricture, and thus examine its whole extent. If he encounters much resistance, or gives much pain, he must not venture to force the barrier, but must be content with ascertaining the seat and degree of contraction. In strictures high up in the gut, the rectum below will often be found quite healthy.

In examining for stricture, it must be recollected that the rectum is liable to be compressed and obstructed by disease of the neighbouring viscera,—by an enlarged or retroverted uterus, fibrous tumours of this organ, a distended ovary, an excessively hypertrophied prostate, or an hydatid tumour between the bladder and rectum. There is a preparation, in the Museum of the London Hospital, of considerable contraction of the rectum produced by a large fibrous and fatty tumour, of an oval shape, developed outside the intestine. I had recently a female under my care, whose rectum was so encroached upon by a large tumour, apparently a fibrous growth from the uterus, that she was unable to pass any solid motion. Her bowels were never relieved until the fæces were rendered liquid by medicine. Several cases are recorded in which bougies have been long used for the cure of a supposed stricture in the

rectum, when the obstruction has afterwards been found to arise from the pressure of tumours external to the coats of the bowel.

The main object in the treatment of a stricture in the rectum is to remove the chronic induration, and to dilate the contracted part sufficiently for the free passage of the motions. The surgeon is rarely consulted at a period when it would be right to adopt even mild antiphlogistic treatment. Yet my experience of the great advantage often derived from the local abstraction of blood, previous to the use of instruments, in stricture of the urethra, leads me to think, that a few applications of leeches to the mucous membrane of the rectum, near the seat of contraction, would prove of considerable service, in the early stage of the disease, in removing the chronic thickening, and facilitating the subsequent treatment. Leeches may be readily applied to this part by the aid of a glass speculum, with a side opening at its extremity. The dilatation of the stricture is to be effected by mechanical means,—by the passage of bougies. Rectum bougies are made of a slightly conical shape, and of various materials; usually of wax, elastic gum webbing, or caoûtchouc. Wax bougies, being soft, are adapted for very sensitive strictures; but as they can seldom be used more than once, and have little effect on a firm stricture, they are not found so convenient as the elastic gum and caoutchouc. The former, being smooth, glides readily through the opening, and offers considerable resistance to a firm stricture; the latter, being of a softer material, answers best in strictures which yield readily to dilatation. If caoutchouc bougies be used, they must be lubricated with soap and water, as oil and grease are injurious to them. But the bougies which I generally employ, and much prefer,

are the sponge-tent. They are made of forcibly-compressed dry sponge, coated with tallow, and are about three inches in length. When this kind of bougie is lodged in a strictured rectum, the tallow slowly melts away, and then the sponge, getting saturated with moisture, swells and dilates the stricture gradually, gently, and very effectively. Before the instrument is used, the bowels must be well relieved either by medicine or an injection. It may be passed with the patient kneeling; but the more convenient position is the recumbent, on the left side, with the limbs bent on the body. The character and closeness of the stricture being ascertained by a careful tactile examination, a bougie, of size sufficient to pass with ease, and without giving the least pain, should be selected. This should be passed gently through the stricture and fairly lodged within the sphincter, the loop attached to it being in the anus. The bougie should then be retained for about twenty-four hours. I have sometimes had occasion to withdraw it at the end of twelve hours, and at other times have left it for forty-eight hours. It is obvious, that with the sponge-tent bougie, dilatation can not only be kept up for a much longer period than with the ordinary bougie, but can be carried to a much greater extent, for the sponge swells to double or treble its size when compressed. The dilatation is, indeed, so effective, that in certain strictures care must be taken that the instrument introduced is not of too great a size; one that would fill the contracted passage often being, when fully distended, too large to be borne without producing pain. There is another inconvenience, too, which results from the use of too large a bougie. The portion of sponge in the dilated bowel above the stricture, as the bougie is removed,

has of course to be dragged through the stricture; but in a case of firm contraction, or irritable stricture, the withdrawal of this swollen part of the instrument requires some little force, which is attended with a painful, tearing sensation. When there is much discharge from the bowel above the stricture, the bougie can seldom be retained longer than eight or twelve hours. The operation may be repeated, as soon as the irritation produced by the instrument has quite passed off, about every third or fourth day, and the size of the bougie may be increased according to the effect produced by the dilating process. This should always be gradual, for forcible dilatation is very liable to excite inflammation in the coats of the rectum, and to aggravate the disease. Inflammation thus produced by a common bougie has been known to extend even to the peritoneum. The treatment by dilatation must be continued, not only until an ordinary bougie of full size can be passed with ease, and the motions are evacuated of proper size, but, even for some weeks or months afterwards, an instrument should be occasionally introduced to counteract any disposition in the contraction to return, and to insure, if possible, a permanent restoration of the canal.

The effect of a bougie introduced through a stricture of the rectum, as in stricture of other mucous canals, is at first to stretch, but afterwards to cause a gradual absorption and removal of the indurated tissue producing the contraction—the condensed areolar or fibrous submucous tissue. The operation of pressure thus applied is constantly witnessed in the treatment of strictures in the urethra. Formerly, when my experience was obtained principally from public practice, the frequent and early return of strictures which had,

apparently, been successfully treated, led me to join in opinion with those who doubted whether a firm, well-established stricture in the urethra is ever permanently cured by dilatation. More extended experience, and a longer observation of cases, have convinced me, that if the dilating treatment be sufficiently prolonged, the areolar tissue may regain its elasticity, and be restored to its healthy state, without retaining the disposition to contract and to indurate. It must be admitted, however, that the dilatation of strictures in the rectum is attended with much less success than the dilatation of strictures in the urethra. Whether this is owing to early neglect, by which the induration in the coats of the bowel becomes too great, before any treatment is resorted to, readily to yield to dilatation, and the mucous membrane too diseased to bear the necessary pressure, or to other causes, is hard to say. But all surgeons of experience will, I have no doubt, admit that fully-formed organic strictures in the rectum yield with difficulty to treatment, and, though often much relieved, are rarely permanently cured[7]. Annular

[7] An excellent practical surgeon, Dr. Colles, of Dublin, states: "I feel confident that a perfect cure of the organic stricture of the rectum has not been effected by any plan of treatment hitherto employed." He adds, "I have paid great attention to the use of bougies, and yet I must candidly declare, that, hitherto, I have not been so fortunate as to have effected a permanent cure in a single instance; nor have I had the good fortune to meet with any patient whom I *knew* to have been afflicted with this disease, who had been cured by another surgeon." (Dublin Hospital Reports, vol. v. p. 142.) I am more hopeful than Dr. Colles, who took, I think, too unfavourable a view of the results of treatment. He was evidently well aware of the reputed cures of irregular practitioners, who are so successful in convincing patients that they are the subjects of stricture, and in getting them to submit to the passage of bougies, when no obstruction exists.

strictures are the most favourable cases for treatment, and the most benefited by dilatation.

A common caution given by writers on this affection is, to avoid mistaking a fold in the mucous membrane of the bowel, or the prominency of the sacrum, for an impediment in the passage, as it appears that they have, in many instances, been taken and treated for stricture of the rectum. I need not repeat this caution, because I consider it a safe rule never to attempt the mechanical dilatation of a stricture unless the contraction be within reach of the finger. I have stated that the ordinary seat of stricture is about two inches from the anus, and that when situated as high up as the point at which the rectum begins, the strictured part is sometimes forced down low enough to admit of being felt by the surgeon. But in these cases the passage of a bougie through a contracted opening is by no means an easy matter; for the part being loose, the point of the instrument is very liable to catch in a fold of the mucous membrane, and to push the bowel before it, beyond the reach of the finger, without penetrating the stricture. In the case alluded to at page 87, this difficulty occurred, so that I could make no progress at all with bougies: I had recourse, therefore, to a two-bladed instrument contrived by Weiss, a modification of his dilator, and similar to what has sometimes been used in the dilatation of a phymosis. This being small, could be carried along my finger up to the stricture, and passed through it, and then, by turning a screw, and separating the blades, I managed to dilate the contraction. The patient derived temporary relief from this proceeding, being able to pass his motions afterwards with greater freedom; but the case was a very bad one, and so much difficulty was found in con-

tinuing the treatment, that it was discontinued, and the man left the hospital without being permanently benefited. I describe the plan, because it may be found useful in other cases of stricture in a similar situation, but not so far advanced.

In cases of stricture at the junction of the colon with the rectum, without any descent or prolapsus, the seat of contraction may be indicated by the limited distance to which a flexible tube can be passed, and its reflexion on reaching that point. Still, when a stricture is out of the reach of the finger, there is no way of ascertaining its character, no guide for the selection of a proper-sized bougie, or for using it so as to dilate the contraction; no means, too, of determining positively whether the disease is simple stricture, or that form of disease—the carcinomatous—which is not likely to be benefited by mechanical interference, and in which the use of instruments is attended with risk of perforation. Such an accident has happened, indeed, without any disease at all, an instrument having been forced through the healthy coats of the intestine in the attempt to penetrate a supposed stricture. In the Museum of Guy's Hospital, there is a preparation of a colon in a perfectly sound state, perforated by a bougie at the distance of fourteen inches from the anus. It was taken from a gentleman who had long suffered from derangement of the digestive organs. This being at length attributed to stricture of the lower bowel, was treated by the passage of a bougie, which had been forced through the intestine into the peritoneum, and had destroyed the patient. The colon has even been perforated with O'Beirne's tube. I was present at the examination of the body of a man who had suffered from obstruction in the bowels. It appeared that a hard-handed prac-

titioner, in giving an injection, had forced an elastic tube through the upper part of the rectum, and injected the abdomen with turpentine and castor-oil. A prudent surgeon, therefore, would always be very careful in the introduction of instruments any distance along the gut, and especially cautious not to employ force to pass what he supposes may be a stricture. It should be borne in mind, that the intestine, unless diseased, is not a very sensitive part, and will bear a good deal of pressure and rough usage without the production of pain. This will account for the injury which patients have been known to inflict on themselves in the passage of instruments into the rectum. Some years ago, a man, aged thirty-nine, was admitted into the London Hospital on account of a close stricture of the rectum. A bougie was passed two or three times, and, for convenience, left in charge of the patient. Being very anxious to make progress, he rashly ventured to pass the instrument himself. Shortly afterwards, he was seized with symptoms of peritonitis, and died the following day. On examination of the body, I found the usual appearances of active peritonitis, and, about an inch and a half from the anus, a firm, indurated stricture of the rectum, an inch in length. Just above the stricture there was a perforation in the bowel half an inch in extent; and two inches above this, another rent, somewhat larger, through which a portion of intestine was protruding. It is scarcely necessary to repeat the caution already given, not to trust a patient to pass a bougie for himself, however slight the contraction may be.

When the stricture is very close, with much induration of the submucous tissue, dilatation may be facilitated by previous incision of the thickened part. The

incision is usually directed to be made in the back of the rectum, towards the sacrum. Some surgeons recommend this to be done with the bistouri caché; but I prefer using a straight, probe-pointed bistoury, introduced flat upon the finger, and carried with it through the stricture. The blade can then be turned towards the contraction. More advantage is gained by two or three notches in different parts of the contracted ring, than from a single deeper division of the stricture. To stop bleeding, and to keep the wounded structures apart, a plug of lint or sponge should be passed into the strictured part immediately after the operation, and retained there for a few hours; and gentle dilatation should be attempted on the next or following day. I have never met with hæmorrhage to any extent after the operation. It is very rarely that a vessel of any size runs directly beneath the mucous membrane in indurated stricture. Mr. Mayo, however, divided a stricture seated within three inches of the anus, towards the sacrum. The operation was followed in a few hours with very serious hæmorrhage, which was arrested by the introduction of a pledget of lint saturated with a strong styptic solution. A deep incision is not only liable to cause bleeding, which it may be difficult to stop, but also to lead to the formation of abscess and fistula, by allowing the passage of feculent matter into the areolar tissue about the rectum. Such an occurrence has happened several times after the operation, and, of course, has added to the difficulties of the case and distress of the patients. A case of stricture once came under my observation, where a surgeon was induced to make an incision into it at the back part. The patient, a female, died about a week afterwards; and on examination I found a long sinus, containing

a thin feculent fluid, extending from the wound upwards on the right side to the extent of six inches, and terminating under the peritoneum of the broad ligament of the uterus. There were marks of recent peritonitis in the pelvic cavity. On the whole, I am averse to having recourse to incisions. Though they facilitate the dilatation a good deal at first, the permanent gain is not considerable, and the operation is attended with risks.

In addition to these measures for dilatation of the stricture, means must be adopted to relieve the irritability of the part, and to ensure the regular passage of soft evacuations. A suppository of ten grains of soap and opium may be given at bed-time, and, if the motions are costive, some confection of senna with sulphur or castor-oil, in the morning, in doses just sufficient to obtain an action of the bowels without purging, which invariably adds to the patient's distress. Castor-oil is of great service in the treatment of this disease. In small doses it softens the feculent masses, and lubricates the passage, without weakening the patient. The chief objection to its use with many persons is the nausea to which it gives rise. But if the patient perseveres, the stomach gets accustomed to the remedy, which it tolerates as it does the cod-liver oil, so that we find patients with chronic disease of the rectum continuing to swallow it daily for weeks and months without any feeling of nausea, or impairment of the appetite. The diet should be nutritious, and consist principally of animal food, so as to afford a small amount of excrementitious matter. Cod-liver oil is an excellent remedy in these cases. It nourishes the patient, and softens the feculent discharges, often rendering aperients unnecessary. It is no needless caution to advise patients

to be careful to avoid swallowing plum-stones. A good deal of benefit may be obtained from the balsam of copaiba, in doses of twenty minims, taken in conjunction with fifteen minims of the *liquor potassæ* in a palatable mixture three times a day. This medicine allays the irritability of the mucous surface, and often proves sufficient to keep up a gentle action of the bowels. The accumulation in the distended bowel above the stricture may be prevented by the occasional passage of an elastic tube through the contraction, and the injection of half a pint of tepid water, or soap and water. It may be necessary to repeat the injection two or three times a week. When much pain has been experienced after stools, and the discharge is considerable and slimy, or tinged with blood, I have found the patient derive a good deal of relief from the application of a solution of nitrate of silver, in the proportion of five grains to the ounce of distilled water, to the diseased mucous surface included in the stricture. This can easily be made by means of a camel's hair brush passed through a small glass speculum open at the extremity, and introduced as far as the stricture. In a very bad case of strictured rectum, under my care in hospital, in which the consolidation was too great, and the mucous membrane too much diseased to admit of my attempting dilatation, the motions passed with much less suffering after a few applications of the nitrate of silver solution in this way. Anointing the mucous surface with the mild citrine ointment, applied by means of a thick camel's hair brush passed through a speculum, has also a good effect in correcting this morbid state of the membrane. Smearing the bougie with ointments, as commonly recommended, is not of much service, as the ointment gets rubbed off in the

first passage of the instrument, and does not reach the part affected. When stricture of the rectum is complicated with fistula in ano, no operation should be performed for the latter disease until the contraction in the rectum is removed.

The diseased mucous surface of the bowel above the stricture not only furnishes a copious discharge, which helps to exhaust the patient's powers, but is sometimes the seat of profuse bleeding. In the autumn of 1852, I attended, with Dr. Hess, a young married lady, who, after suffering for some years from a stricture in the lower part of the rectum, was attacked with alarming hæmorrhage from the bowels, which continued for several days. The bleeding evidently came from above the stricture, and it was suspected to proceed from a spot in the descending colon, which was very tender on pressure externally. The hæmorrhage was effectually stopped by repeated cold alum injections, carefully administered with the long tube passed through the stricture.

We often meet, especially in hospital practice, with old, inveterate, and neglected strictures, in which the disease is too far advanced to offer any prospect of being benefited by dilatation. In such cases, much may be done to mitigate the sufferings of this distressing complaint by the measures just described. This is all we can hope to effect; and in spite of all our care and palliative remedies, the disease will continue to make progress, wearing out the patient's strength, and ultimately proving fatal.

I have alluded to the circumstance, that in many cases of stricture of the rectum, the inconvenience is so slight, that no suspicion is excited, even of its existence, until the bowel becomes obstructed by the impaction, at the

contracted part, of hardened fæces, or some solid body, as a plum-stone. When the stricture is near the anus, the surgeon will be able to extract or dislodge any substance so blocking up the orifice, or, in case of extreme contraction, to afford relief by dilatation or incision, and injections through a flexible tube. But if the impediment should exist, as it more frequently does, at the termination of the sigmoid flexure, and out of reach of the finger, he will probably fail in his attempts to remove it, and the patient's life then becomes exposed to imminent danger from insuperable constipation. In these cases, the constitution not being impaired by disease, a long period elapses before the vital powers give way under the disturbance, patients having lived three weeks, and even longer, without passing stools. In this interval, the propriety of having recourse to an operation to provide an artificial vent for the fæces must necessarily come under the consideration of the surgeon. The first point to be cleared up is, all doubt in respect to the seat of obstruction. It may be found, that only a small quantity of fluid can be thrown into the bowel, and that it readily returns uncoloured; that the long flexible tube will not pass further than about eight inches; or, that if its progress be not arrested at that distance, the finger introduced into the rectum, by the side of it, will meet the end of the tube, which, on reaching the obstruction, has turned back. The distended colon may be traced down into the left iliac region. These signs, especially if accompanied with pain referred to, or felt on pressure at the upper part of the sacrum, towards the left side, would pretty clearly indicate the exact situation of the obstruction. And, as an impediment very seldom occurs at the point of termination of the colon in the rectum from any other

cause than stricture[8], the surgeon becomes apprised of the nature of the case with which he has to deal. His opinion will be strengthened, if he finds, upon inquiry, that the illness has been preceded by slight attacks of constipation, and difficulty in regulating the bowels. It is right to add, that notwithstanding these guides, the diagnosis may be difficult. In a case of stricture at the termination of the colon in the rectum, which came under my notice, some of the surgeons consulted hesitated pronouncing a positive opinion as to its seat. In another case of internal obstruction which was operated on without success, the surgeons were completely mistaken; the distended small intestines occupying the pelvis having so pressed on the rectum as to prevent the lodgement of injections, and to cause the doubling of the long tube, which led to the supposition that the obstruction was at the extremity of the colon, instead of in the ileum, as appeared after death.

The knowledge of the cause of the obstruction, and of its seat in the lower part of the alimentary canal, places these cases in a different category from those of internal obstruction, in which, with the utmost skill and care, and under the most favourable circumstances, the diagnosis of the situation and nature of the impediment must always be involved in considerable obscurity. Besides, there is not the same occasion for delay in the hope or chance of the impediment yielding, which tends so much to embarrass the practitioner in treating the more doubtful cases; for, when the ordinary means of giving relief have failed, it is clearly the duty of the

[8] Intus-susception occurs at this part; but in such a case the invaginated intestine would be felt in the rectum. Accumulations of hardened fæces above the same point would be dislodged by introducing the long tube, and throwing up injections.

surgeon to suggest the expediency of the operation for an artificial anus before inflammation is set up, or the intestines have become damaged by over-distension, or before the powers of life are too far exhausted to admit of the patient's recovery afterwards. That delay tends greatly to diminish the chances of a favourable result from such an operation is obvious enough. In a case which was operated on at the London Hospital on the fifteenth day of obstruction, and ended fatally, I found, on examination of the body, the peritoneal coat of the transverse colon ruptured to the extent of about six inches[9].

An operation for artificial anus may also be required in cases of old-standing stricture lower down in the rectum, in consequence of the contraction becoming so close as, in spite of surgical treatment, to prevent the passage of fæces, and to occlude the canal. A contraction near the anus very rarely, however, produces complete obliteration of the gut; for not only does the increasing contraction admit of being checked in most instances by proper management, but the ulceration of the mucous membrane, which so commonly ensues, slightly enlarges the passage, and counteracts the tendency to close. An opening into the intestine above the stricture may, however, be called for, in consequence of the extreme misery produced by a stricture in this situation, in addition to the difficulty experienced in evacuating the bowels. About two years ago I opened the colon in the left loin of a man, aged thirty-eight, who had a partial obstruction from a stricture at the commencement of the rectum. In this case, the

[9] This case is recorded in Mr. Phillips' paper on Intestinal Obstructions, in the Medico-Chirurgical Transactions, vol. xxxi.

patient's sufferings were much aggravated by the passage of fæces into the bladder through an opening communicating with the bowel above the stricture[1]. In a peculiarly distressing case of the same kind, recorded by Mr. Pennell[2], a communication having formed between the rectum and bladder, and urethra, in which there was an impassable stricture, so much irritation and mischief resulted, that the patient gladly submitted to a similar operation for his relief.

In obstructions of the rectum, an artificial opening for the passage of the fæces may be made into the colon in the left groin by the operation commonly called Littrē's; or in the left lumbar region, by an operation known as Callisen's, modified by Amussat. Difference of opinion exists as to which is the better operation, each method being attended with certain advantages and disadvantages. I was at one time disposed to give the preference to Littré's operation, but a consideration of the facts adduced in Mr. Cæsar Hawkins' valuable paper in the Medico-Chirurgical Transactions[3], and a further acquaintance with these cases, have led me to the conclusion that the opening of the colon in the left lumbar region is the safer and more advantageous proceeding. The chief objections made to the latter are,—the strong disposition of the aperture to contract—the inconvenience of the situation and the difficulty of adjusting any apparatus to close it—and the magnitude of the operation. The first objection may be removed by care in making the opening in the bowel of sufficient size, and in securing its edges to the

[1] He recovered from the operation, and returned to his home in Scotland, where he died at the end of five months. The case is recorded in the Medical Times and Gazette, Dec. 18, 1852.

[2] Med.-Chir. Trans. vol. xxxiii. p. 255. [3] Vol. xxxv.

outer wound. Persons who have survived the lumbar operation, have complained of inconvenience from the site of the opening and of difficulty in closing it much less than might be expected. And as the persons requiring the operation are rarely stout, being always more or less emaciated by disease, the operation in the loin is not of any great magnitude, indeed, scarcely greater than the operation in the groin. On the other hand, the operation in the loin has the advantage of being external to the peritoneum, and of being attended, therefore, with proportionately less risk than the iliac operation. A table formed by Mr. Hawkins contains fourteen cases of operation for artificial anus on account of non-malignant stricture in the rectum or terminal portion of the colon. The iliac operation was performed in seven, of which four were fatal. The lumbar operation was performed also in seven, but only one proved fatal. The comparison of results in these cases is strongly, therefore, in favour of the lumbar operation[4].

Of these fourteen cases of operation, five were fatal within a month, and nine recovered. Of the latter, one survived five months, one fourteen months, and a third twenty-one months. The remaining six were all alive at the last report, and one was living seventeen years after the operation. Last year I had the opportunity, through the kindness of Mr. Clendon, of Albemarle Street, of seeing one of the survivors, the gentle-

[4] It is right to notice that the cases of operation for cancerous stricture of the rectum, in Mr. Hawkins' tables, do not yield results so favourable to the lumbar operation. Of seventeen cases, five were operations in the groin; and of these, two were fatal. Twelve were operations in the loins; six of these were fatal within a month.

man operated on by Mr. Pennell in 1849. He was in good health, able to attend to business and to go into society, and suffered much less inconvenience than might be anticipated.

The descending colon may be opened in the left loin in the following manner. The patient is to be placed upon the face, with a pillow beneath the lower part of the abdomen, in order to render the left flank prominent. The spot where the intestine should be sought for and opened is about two fingers' breadth above the crest of the ileum, and midway between the anterior and posterior superior spinous processes. This spot being kept well in mind, an incision is to be made across the loin, commencing at the outer margin of the erector spinæ and carried outwards for about four or five inches. The layers of muscles are to be cut through down to the transversalis fascia, which is to be divided upon a director. In the loose fat beneath this fascia the posterior wall of the colon will be found. This is to be seized with the forceps and drawn towards the outer wound, and an incision is then to be made into it in the longitudinal direction. This opening should not be less than an inch in length. Its sides are to be secured to the lips of the wound in the skin by two sutures, one on each side. This is an important step in the operation, as it prevents fæcal effusion into the loose areolar tissue, renders the intestinal opening superficial instead of at the bottom of a deep wound, and obviates any after-difficulty in keeping the new anal aperture patent. A branch of one of the lumbar arteries may be wounded and may require to be tied. In cases of rectal obstruction with fæcal distension of the large intestine, this operation may be performed without risk of opening the abdomen, and

in practising the operation on the dead body, I have never found any difficulty in laying open the unloaded colon without wounding the peritoneum; but when the gut is contracted, the opening into it must be made an inch nearer the spine than the spot above indicated. In the case in which I performed the lumbar operation in the mode just described, the wound healed favourably, and the artificial anus remained free for five months afterwards, the period the patient survived it.

The abdomen may be opened in the left iliac region by a perpendicular incision, about three inches in extent, commencing two inches above Poupart's ligament, and an inch external to the course of the epigastric artery. The fibres of the abdominal muscles being cut across will help to keep the wound open. The peritoneum being divided, the distended colon will immediately protrude at the wound. A curved needle, armed with a silk ligature, being passed through the coats of the intestine, above and below, to prevent its receding when emptied of its contents, the bowel may be opened by a longitudinal incision, about an inch in length, in the space between the retaining ligatures.

There is a peculiar form of stricture of the rectum, not generally known, nor fully understood. In cases of the disease, the interior of the rectum is abundantly studded with small excrescences arising from partial hypertrophies or irregular growths of the surface and folds of the mucous membrane. The sensation communicated to the finger passed into the rectum is remarkable, the surgeon feeling a number of rough irregular eminences, more or less hard, thickly lining

the surface. These excrescences, when numerous, have the effect of somewhat narrowing the canal below the stricture. This is situated further from the orifice than in ordinary cases, usually at a distance of three inches. Some flattened growths, resembling shrunk external piles, but small and redder, are almost constantly found at the margin of the anus in these cases. The changes in the mucous membrane above described are said to occur without any stricture. I have not myself met with any case of the kind. This disease is invariably attended with a profuse discharge from the rectum of pus and slimy matter mixed with blood. There is not only painful tenesmus before a feculent evacuation, but a frequent and urgent desire to void the slimy pus and mucus which collects in the bowel. This was so frequent and so pressing in a gentleman who was under my care, that he was unable to go into society, or ride in a public conveyance, or travel by rail. The copious discharge helps greatly to weaken the patient's powers. They waste faster than persons suffering from ordinary stricture.

This form of stricture occurs chiefly in women. I have met with only one case of it in the male sex. The disease has been particularly noticed by Sir B. Brodie[5], who also observed it chiefly in women, especially in those who had borne children. An incomplete paper giving a short account of this peculiar form of stricture in the rectum, by the late Mr. Colles, has been published[6] recently. In this paper there is a table of sixteen cases, and it is remarkable that thirteen of them were males, a proportion which is quite contrary to

[5] London Medical Gazette, vol. xvi.

[6] Dublin Quarterly Journal of Medical Science, February, 1854.

the experience of other observers. I believe that the tubercles from the mucous membrane, schirrosities and internal condylomata of the rectum, described by some of the French writers, as Desault and Delpech, are nothing more than these excrescences. Desault supposed that they were of syphilitic origin. This view of the nature of the disease has been adopted recently by M. Gosselin, in a paper[7] containing an account of this form of stricture, founded on the observation of twelve cases, all females; in three the parts were examined after death. He has shown that an ulcerated state of the mucous membrane above the stricture is the chief source of the purulent discharge. In the few cases of this affection which have come under my notice there has been no trace of constitutional syphilis, nor any other evidence of the stricture originating in this disease, nor were the morbid alterations in structure in M. Gosselin's cases obviously connected with syphilis, either primary or constitutional. He supposes that an inflammation developed around a primary sore spreads to the rectum and gives rise to this peculiar affection, an explanation which few will regard as satisfactory. I am disposed, however, to view this state of the rectum as the result of chronic inflammation of the mucous membrane giving rise to a profuse secretion of a mucopurulent fluid at the lower part of the gut, and as somewhat analogous to chronic cystitis. This disease leads to the production of excrescences and hypertrophies of the mucous membrane, and higher up, by extension of inflammation to the submucous tissue, to the formation of stricture, the latter, probably, not being necessarily associated with the former.

[7] Archives Générales de Médecine, Dec. 1854.

In addition to the treatment proper for stricture, mucilaginous and astringent injections will be serviceable in diminishing the profuse discharge, and advantage will also be gained by applying a solution of nitrate of silver to the diseased mucous membrane below the stricture. The iodide of potassium, small doses of mercury, and other constitutional remedies may also be of use in relieving the local disease. The complaint, however, is very intractable and difficult of cure.

CHAPTER X.

CANCER OF THE RECTUM.

THE coats of the rectum are subject to carcinomatous degeneration in the three forms of *scirrhous*, *encephaloid*, and *colloid*. The scirrhous or fibrous form is sometimes developed in the submucous areolar tissue encircling the bowel at a particular spot, so as to lessen the area of the passage, and produce an annular stricture. Either of these forms of cancer may, however, invade the coats to a greater extent, contracting a considerable portion of the canal irregularly. Thus, in one instance of scirrhus which I examined after death, the rectum was diseased to the extent of two inches and a half. The upper opening would scarcely allow of the entrance of a small goose's quill; the lower would just admit the little finger; and between the two apertures the canal was irregularly dilated. Scirrhous degeneration may continue to increase until it narrows the gut to such an extent, that only a common-

sized probe will pass through it, and may at length completely close the canal. In the London Hospital Medical College, there is a fine specimen of colloid cancer, producing great thickening of the coats of the rectum, in some parts to the extent of an inch and a quarter, and stricture of the bowel. The mucous membrane within the contraction is the seat of a large ulcer. Encephaloid cancer sometimes springs from the mucous membrane in the form of a fungus, projecting into the bowel and interfering with the passage. The fibrous cancer and the soft medullary not seldom become blended together. Thus, in the later stages of the disease, a fungous growth may arise from a part previously contracted by scirrhous deposit in the submucous areolar tissue. The rectum occasionally becomes blocked up and occluded by fungous masses; or the changes which take place may have a contrary effect, degeneration and softening, causing the coats to yield, and so increasing the calibre of the canal; or the impediment may be removed by sloughing of the softened growth, and detachments of portions of the morbid mass. A description of the progress of cancer of the rectum, and of the changes that occur in its advanced stage, is a description of the disorganization and invasion of all the tissues of the part, and of the organs in its immediate neighbourhood, in various degrees in different cases. In some instances, the carcinomatous bowel becomes wedged in the pelvis, agglutinated and fixed to the surrounding parts, forming one mass of disease. Frequently softening and ulceration cause fistulous communications with neighbouring parts—with the vagina in the female, and with the bladder or urethra in the male; or the peritoneum may become perforated, and an opening made into the abdominal

cavity. When the passage is contracted, the intestine above the seat of disease becomes, as in simple stricture, dilated and hypertrophied.

Carcinoma may attack any part of the bowel, but generally affects the lower portion within three inches from the anus. It is liable to be developed also, though less frequently, at the point where the sigmoid flexure terminates in the rectum. The disease primarily developed in the intestine is sometimes confined to this organ and to the adjoining structures, no other part of the body being found after death secondarily affected. But this is not always so. The lymphatic glands in the vicinity of the rectum often become enlarged; the liver is occasionally invaded by tubercles, and the peritoneum also studded with scirrhous deposits, and similar disease may be developed in the lumbar glands, and other internal parts.

Cancer of the rectum generally commences insidiously. Its early symptoms are, in many instances, so similar to those of simple stricture, that the nature of the disease cannot be determined, or may not be suspected, until a considerable change has been effected in the condition of the bowel. The patient is troubled with flatulency, has difficulty in passing his motions, and strains in the effort to void them; and, as the disease makes progress, experiences pains about the sacrum, which gradually increase in severity, and dart down the limbs. By this time some alarm is probably excited; and the surgeon, being consulted, will be led to make an examination. On introducing his finger into the rectum, he may find easily within reach a rigid contraction in the passage; but whether from cancer, or from chronic inflammatory thickening, it may be difficult to determine. The lancinating character of

the pains will perhaps justify the more unfavourable conclusion. Should he feel any irregular nodules about the stricture, any hard solid tumour, or encounter a resistance like cartilage, or meet with softish tubercles which leave a bloody mark on the finger, then he will be able to pronounce on its carcinomatous nature. At a later period no difficulty is experienced. The surgeon feels a hard mass of disease, in which he may have some trouble in discovering the orifice of the passage, or finds rounded fungoid growths which bleed readily when touched. The disease may extend as low as the anus. An irregular red-looking growth sometimes protrudes externally, blocking up the passage or displacing the anus. The stools become relaxed and frequent, and contain blood, and, in passing, cause a scalding pain, and give rise to severe suffering. Often also there is a thin, offensive, sanious discharge. As the disease makes progress, greater difficulty may be experienced in evacuating the bowels; or, in consequence of softening having caused the parts to yield, it may be the reverse, the motions passing with less trouble. The sufferings also increase: severe shooting pains are referred to the groins, back, or upper part of the sacrum, and often extend down the thighs and legs, leaving a dull fixed uneasiness in the intervals. The constitution suffers in due course: the patient exhibits the blanched sallow look, anxious countenance, and emaciated appearance, commonly observed in persons suffering from malignant disease. If complete obstruction of the bowel do not occur to accelerate a fatal termination, as not unfrequently happens, fresh troubles arise. In consequence of a communication becoming established between the rectum and urethra or bladder in males, flatus escapes from the urethra,

and liquid fæces pass with the urine; and in females, motions are discharged at the vagina. The passage of part of the contents of the bowels by these unnatural channels greatly increases the misery of the patient's condition, rendering him an object of disgust to himself, and offensive to those about him. An ulcerated opening into the peritoneum, allowing the escape of feculent matter into the abdomen, may excite peritonitis, and thus bring the case to a fatal termination; or, the powers of life gradually giving way, the patient becomes hectic and exhausted, and worn out by this painful and distressing malady. There is great variety, however, in the degree of suffering, and even of constitutional derangement, attending this disease. The sufferings are in some instances excruciating; in others, comparatively slight. I had a man under my care whose anus was blocked up with carcinomatous fungus, and who had an opening into his urethra; but the pains were not severe, nor had his constitution suffered to any great extent. His chief complaint was of gas escaping from the urethra.

Cancer of the rectum occurs generally in middle age. I have met with it rather more frequently in women than in men, and have found it a less common complaint than simple stricture.

All that can be obtained from remedies in this terrible disease is palliation of the symptoms and ease from pain. Any kind of mechanical interference, by dilatation or otherwise, irritates the parts, hastens the development of disease, and increases the patient's sufferings. The introduction of a bougie is always, indeed, hazardous, and I have met with one case, and seen the preparation of another, in which the practitioner, in using this instrument, passed it through the softened

tissues into the abdomen, and thereby accelerated the patient's death by causing peritonitis. After the nature of the case is clearly ascertained, examination, even with the finger, should be avoided. The patient should remain at rest, chiefly in the recumbent posture, and take a nourishing, but not stimulating diet. The general health may be supported by tonics. The bowels must be kept open, and the motions rendered soft, if necessary, by small doses of castor oil. If the stricture should be very close, so as to cause a lodgement of the fæces above, it may be necessary to pass a long tube through the contraction, and to inject warm water, or soap and water, in order to break up the feculent masses. The greatest care must be used in the passage of the tube. In a hospital case of cancerous stricture, rather high up, in which I directed it to be employed as occasion required, the dresser, on the third or fourth time of using it, unfortunately passed the tube through the soft carcinomatous mass, and penetrated the abdomen, causing the patient's death in twelve hours. Pain can be alleviated by small doses of morphia night and morning, their strength being gradually increased as the effects of the remedy diminish. When the sufferings are severe, much ease may be obtained from the local application of chloroform. Some lint wetted with it is to be applied over the anus, and covered with oiled silk to check evaporation. In an extreme case, if opiates should lose their effects, the surgeon might have recourse to the inhalation of chloroform. I have employed this remedy in several cases, and though not administered to the extent of destroying consciousness, it gave marked ease, and was repeatedly resorted to

for many days in succession, whenever there was a return of the paroxysmal pain.

Lisfranc, of Paris, proposed and practised excision of the carcinomatous rectum; and Dieffenbach states, that he performed the operation upon no less than thirty patients, not one of whom died soon afterwards. In some cases the disease returned in three months. In one, a very large cancer, with destruction of the external skin, and perforation of the bladder, appeared within a month; but the larger proportion of cases continued well many years afterwards[8]. That all these cases were really cancerous may be fairly questioned; and, I cannot but think, that an operation, which subjects the patient afterwards to the misery of incontinency of fæces, and to great risks from a stoppage of the opening in the contraction of the wound, and, in cases where the cancer is sufficiently developed to leave no doubt of its true nature, to an early return of the disease, ought to be condemned. The chance even of a prolongation of life is not worth acceptance on the terms offered by such an operation.

The rectum sometimes becomes so contracted or blocked up by cancerous disease as entirely to close the passage for the fæces. Under these circumstances, the surgeon, having exhausted the usual means of giving relief, will have to consider the propriety of forming an artificial anus. In Mr. Hawkins' table, in the Medico-Chirurgical Transactions, there is a notice of seventeen cases in which an artificial anus had been formed for cancerous disease of the rectum or terminal portion of the colon. Of these, eight died

[8] British and Foreign Medical Review, Oct. 1850.

within a month after the operation, and nine survived that period. One lived only thirty-five days, but was much relieved by the operation, and died chiefly from sloughing over the sacrum. Two lived two months, one three and a half months, one five months, two twelve months, one two years, and one upwards of two years and a half. In this last case the cancer had not made much progress. These results are so far favourable as fully to warrant an operation. In a case, therefore, of this disease, in which obstruction existed, it would certainly be our duty, provided the patient's powers were not too much reduced, to represent to him the chance yet left of obtaining a prolongation of life, and to undertake the operation in compliance with his wishes and those of the friends.

But though the making an artificial anus in cancer of the rectum producing obstruction is an operation quite justifiable, the question may arise, whether life cannot be prolonged, and much suffering prevented, by recourse to it in cases of cancer attended with a constant slimy and feculent discharge of so exhausting and painful a character as to induce the sufferer to consent to any measure that held out a hope of relief? I have certainly met with cases in which the cancer was making but slow progress, and had not greatly impaired the patient's powers, but in which the constant passage of scalding discharges rendered life truly miserable. By diverting the channel for the passage of the fæces much of this distress might be averted, and the progress of the disease probably retarded, owing to the removal of a source of constant irritation; so that if life could be extended and rendered tolerable for only a few months, we should do right in suggesting the operation, and allowing the patient to incur the

risk of its performance. The danger is, I am convinced, less than is commonly supposed; and in the unsuccessful cases in the table above alluded to, the fatal result was chiefly attributable to the effects of the disease on the constitution of the patients. There is scarcely one in which the death is directly assigned to the operation. As I have previously remarked (p. 109), the unloaded colon may be opened in the left loin with but little risk of injury to the peritoneum.

The rectum is subject to the form of malignant ulcer, with or without stricture, which is commonly known as *epithelial cancer*. In the Museum of the College of Surgeons there is a rectum in which there is an intussusception of the upper within the lower part (No. 1380). It is stated that at the lower end of the intussuscepted portion a thick, firm, cancerous tumour, like an epithelial cancer, extends nearly all round the intestine, as well as deeply into its coats, and projects far into its cavity. The disease certainly appears to be of the character described. I once met in dissection with an epithelial growth, producing slight contraction, in the ascending colon of an old woman upon whom I had operated for strangulated hernia eight weeks before death. The elevated cancerous ulcer was found in the part which had been strangulated, and which I noticed at the time of the operation had been much bruised in the application of the taxis. She had suffered severe pain in the part, and considerable uneasiness in the lower part of the back, which occurred at intervals. A lady, forty years of age, with an epithelial cancerous ulcer, the size of a crown piece, in the rectum, just within the sphincter, is at present under my care, with the view of undergoing an operation. Escharotics have been freely

applied to the sore by a surgeon in Paris without effect.

Epithelial cancer is more liable to attack the integuments at the margin of the anus than the interior of the rectum, producing a sore resembling cancer of the lip. The disease is rare, however, even at the anus, which seems surprising when we consider how commonly it occurs at the commencement of the alimentary canal, the analogous nature of the tissues at the two extremities, and the local irritation to which the outlet is exposed. If the glands in the groin should be free from disease, the morbid parts at the anus may be excised with a fair prospect of permanent relief. I performed this operation lately in a well-marked epithelial cancer in a married woman, forty-nine years of age. A large cancerous ulcer, which had been forming about two months, was seated on the right of the anus, and penetrated nearly to the bowel above the outer sphincter muscle. I was obliged, therefore, to remove nearly the whole of one side of the anus. Some large vessels required tying, and the wound was afterwards plugged with sponge, which effectually prevented secondary hæmorrhage. The retraction of the levator ani muscle deepened the wound, and added to the difficulty of securing the vessels. During the healing of the wound I had occasion to apply the *potassa fusa* at two points where the disease had not been entirely excised. The part afterwards healed favourably without any material contraction of the outlet, which readily admitted the forefinger.

CHAPTER XI.

FÆCES IMPACTED IN THE RECTUM.

In the fourth volume of the Medical Observations and Inquiries, there is an anonymous paper, "On Painful Constipation from Indurated Fæces in the Rectum," said to have been written by Dr. Fothergill. Two cases of obstruction from this cause are related in this paper, and a few more of a similar character are to be found in the writings of White, Hey, Copland, and others. Cases of the kind are not very uncommon; yet the nature of the affection is liable to be overlooked by practitioners not alive to its occurrence. It appears, that the rectum becomes gradually dilated and blocked up by a collection of hard dry fæces, which the patient has not the power to expel; being unable, either from general debility, or loss of tone in the distended bowel, to overcome the resistance of the sphincter to the passage of so great a body. Some indurated lumps from the sacs of the colon, on reaching the rectum, perhaps coalesce so as to form a large mass; or a quantity accumulated in the colon, on descending into the lower bowel, become impacted there. In several instances a plum-stone has been found in the centre of the mass, forming a sort of nucleus. Such a collection gives rise to considerable distress and alarm, producing constipation, a sensation of weight and fulness in the rectum, tenesmus, and forcing pains which women describe as being equal in severity to those of labour.

In cases of some duration, where the hardened fæces do not quite obstruct the passage, they excite irritation and a mucous discharge, which, mixing with recent feculent matter passing over the lump, causes the case to be mistaken for a diarrhœa. Injections thrown into the rectum have no effect in softening the indurated feculent mass: they act only on the surface, and generally return immediately, there being no room for their lodgement in the bowel. The surgeon, on introducing his finger at the anus, finds the bowel distended and blocked up with a large lump, which feels almost as hard as a stone. In such cases, the only mode of giving relief is by mechanical interference. The mass requires to be broken up and scooped out. For this purpose, a lithotomy-scoop is a proper instrument; but, as this is not always at hand, I have used generally a silver dessert-spoon, which I have had to pass sometimes nearly its whole length, in order to dislodge the hardened mass. The surgeon should be content with breaking up and extracting the larger portions, a few injections afterwards being sufficient for the removal of the remainder.

I have had to afford assistance in several cases of this painful and disagreeable affection. No less than three came under my notice during a period of six months They were all persons enfeebled by age or disease. One was the case of a lady, aged sixty-eight, whose constitutional powers were much weakened by long-existing carcinoma of the breast. Her sufferings were so severe that I made the examination in expectation of finding carcinoma of the rectum, or of the uterus, preventing the passage of the fæces. The second was the case of a man, aged forty-seven, whose leg I had amputated in the London Hospital a few

weeks before, for disease of the tarsus. He had suffered from secondary hæmorrhage, had a bed-sore, and was much reduced at the time. The third was a bed-ridden old lady, aged eighty-four, who had taken largely of laudanum for a nervous affection of the throat. They were all readily relieved, by mechanical aid, from a state of considerable suffering and distress.

CHAPTER XII.

ANAL TUMOURS AND EXCRESCENCES.

Besides the flaps and folds of integument consequent on external piles, other growths are developed in the immediate vicinity of the anus. Thus, tumours of a fibrous texture sometimes form in the subcutaneous areolar tissue, and, as they increase, become pedunculated. They seldom exceed the size of a chestnut. They have a firm feel, and their surface is generally irregularly lobulated. Mr. Hovell, of Clapton, sent me an unusually large tumour of this kind, which he had excised from a gardener, forty-one years of age: it weighed upwards of half a pound, and was composed of fibrous tissue arranged in several lobes; it had been pendulous, and attached to the margin of the anus by a narrow neck. There was an ulcer on its surface, produced, no doubt, by pressure in sitting, and friction against the dress. This tumour had been seven years in forming. Few persons would allow a tumour to increase to such a size, in so inconvenient a situation, without seeking for relief from an operation. These

fibrous growths may be easily and safely removed by excision.

Warts are not unfrequently developed around the anus, and they sometimes grow so abundantly as to constitute a considerable cauliflower-looking excrescence. They then form projecting processes, of various sizes, densely grouped together, many being of large size, with their summits lobulated, expanded, and elevated on narrow peduncles more or less flattened. I have removed a mass forming a tumour as large as the closed fist, separating the nates, and almost blocking up the passage for the fæces. When abundant, they are attended with an offensive, thin discharge. They originate in the irritation consequent on want of cleanliness, and occur generally in young grown-up people of both sexes. I once saw a large crop of these growths in a child only four years of age. In some persons there is a strong disposition to the formation of warts; so that, without great attention, it is difficult to prevent their formation. If few in number, and small in size, they may be destroyed with strong nitric acid. They generally require, however, to be removed by excision, which is the quickest and most effectual mode of treatment. This may be effected with a curved pair of scissors. The operation is rather painful, and should therefore be performed whilst the patient is under the influence of chloroform. Wet lint may be applied to the part; and the patient should be directed afterwards to check any tendency to a reproduction of the growths, by great cleanliness, and the use of a lotion of the oxide of zinc.

CHAPTER XIII.

PRURIGO PODICIS.

ITCHING at the anus is a common symptom in several disorders of the lower bowel; but it may also occur as a distinct affection, or independently of any other disease of the part. It is caused by worms in the lower part of the rectum, and also frequently results from the determination of blood which attends the formation of hæmorrhoids. The congestion of the hæmorrhoidal veins occurring in chronic enlargement of the prostate gland is also sometimes attended with the same symptom. When the complaint is dependent on piles, and indeed generally, patients suffer mostly after taking wine or stimulating drinks, and during warm weather, and when heated in bed. The itching is most teasing and annoying, but especially at night, when it keeps the patient awake for hours. Rubbing the part to arrest the irritation only aggravates the mischief afterwards; yet few persons have sufficient self-control to prevent their seeking temporary relief by scratching; and many, though capable of restraining themselves whilst awake, fret the part unconsciously during sleep. The friction thus resorted to excoriates the skin at the margin of the anus, and renders it harsh, so that it cracks from slight causes, and ulcers and fissures are produced, which are but little disposed to heal.

In women, itching at the anus is sometimes conse-

quent on affections of the womb. I saw, with Mr. Kennedy, of Stratford, a lady who had retroversion of the uterus, which probably produced congestion of the hæmorrhoidal veins. Her most distressing symptom was excessive prurigo, which affected not only the verge of the anus, but even the mucous membrane inside the sphincter. The margin of the anus was excoriated and fissured by friction, and the mucous membrane of the rectum was rough and granular from the same cause, for the sufferer was in the habit at night of inserting her finger within the bowel to endeavour to allay the tormenting irritation.

In most instances, this complaint, after proving troublesome for an hour or two at night, and in the day after excitement, ceases, and the patient has long intervals of rest and ease. But in the worst forms of the malady, the torment is most distressing. It lasts throughout the night, so that the patient gets little but broken sleep, and after a time the general health seriously suffers, and life is rendered truly miserable. Such was the condition of the lady whose case I have just alluded to.

In a few cases which have fallen under my notice I could discover no local cause whatever to account for the prurigo. It seemed to be purely an affection of the nerves of the part. The patients were generally healthy persons. One gentleman, who had been subject to it for years, found that it was connected with his state of mind. When much engaged, and prosperous in business, he suffered little from it. He was sometimes free from it for a whole month, and then became troubled for many nights in succession. In cases of this kind, the complaint is usually very obstinate, and sometimes severe; but after proving

more or less troublesome for years, it has been observed to subside as age advances.

In prurigo, by whatever cause produced, the habits of living should be regulated. The patient should sleep on a mattress, and be as lightly covered as is consistent with comfort. Cold bathing or sponging should be daily resorted to, and sufficient exercise taken in the open air. All hot condiments and stimulating drinks must be strictly avoided. The actions of the bowels are to be regulated, if necessary, by medicine; and after each evacuation the parts should be well cleaned with soap and water. Every effort must be made to avoid friction to stop the irritation; and the patient should be assured, that if he yields to his inclinations his complaint will be rendered worse, and more difficult of cure.

In prurigo from obvious local congestion, a leech or two at the anus will give marked relief. In all cases, the disease which gives rise to this troublesome symptom must be the chief object of attention; but there are certain remedies which are specially adapted to relieve the irritation. The itching attendant on piles may generally be arrested by smearing the anus with the dilute citrine ointment, or by lodging in the aperture a small piece of cotton wool or fine lint soaked in a lotion of the oxyde of zinc (℥j.—℥viij.). This lotion is sometimes rendered more efficacious by the addition of the dilute hydrocyanic acid. One of the best lotions for relieving irritation at this part is composed of a drachm of the sulphuret of potassium, and eight ounces of lime water. The chloroform ointment sometimes succeeds[9]. It produces a smarting

[9] Formula at page 13.

sensation when first applied, but this is soon followed by ease. In severe cases of the idiopathic form, which have resisted ordinary treatment, I have resorted to the local application of ice, which gives certain, but, in general, only temporary relief; and when the application is discontinued the vascular reaction afterwards sometimes increases the mischief. In cases of this kind, where the rest is seriously disturbed, opiate suppositories at night may be resorted to with much advantage. In cases of a constitutional character the *liquor potassæ arsenitis* has proved beneficial.

THE END.

LONDON:
GILBERT AND RIVINGTON, PRINTERS,
ST. JOHN'S SQUARE.

BY THE SAME AUTHOR.

PREPARING FOR IMMEDIATE PUBLICATION,

A

TREATISE

ON THE

DISEASES OF THE TESTIS.

Second Edition. Revised and Improved. 8vo.

London, New Burlington Street,
March, 1857.

MR. CHURCHILL'S

Publications,

IN

MEDICINE, SURGERY,

AND

SCIENCE.

"It would be unjust to conclude this notice without saying a few words in favour of Mr. Churchill, from whom the profession is receiving, it may be truly said, the most beautiful series of Illustrated Medical Works which has ever been published."—*Lancet.*

"All the publications of Mr. Churchill are prepared with so much taste and neatness, that it is superfluous to speak of them in terms of commendation."—*Edinburgh Medical and Surgical Journal.*

"No one is more distinguished for the elegance and *recherché* style of his publications than Mr. Churchill."—*Provincial Medical Journal.*

"Mr. Churchill's publications are very handsomely got up: the engravings are remarkably well executed."—*Dublin Medical Press.*

"The typography, illustrations, and getting up are, in all Mr. Churchill's publications, most beautiful."—*Monthly Journal of Medical Science.*

"Mr. Churchill's illustrated works are among the best that emanate from the Medical Press."—*Medical Times.*

"We have before called the attention of both students and practitioners to the great advantage which Mr. Churchill has conferred on the profession, in the issue, at such a moderate cost, of works so highly creditable in point of artistic execution and scientific merit."—*Dublin Quarterly Journal.*

DR. ACLAND.

MEMOIR ON THE CHOLERA AT OXFORD IN THE YEAR

1854; with Considerations suggested by the Epidemic. 4to. cloth, with Maps, 12*s*.

MR. ACTON, M.R.C.S.

A PRACTICAL TREATISE ON DISEASES OF THE URINARY

AND GENERATIVE ORGANS OF BOTH SEXES, INCLUDING SYPHILIS. Second Edition. 8vo. cloth, 20*s*.

DR. ADDISON.

ON THE CONSTITUTIONAL AND LOCAL EFFECTS OF

DISEASE OF THE SUPRA-RENAL CAPSULES. 4to. cloth. Coloured Plates, 21*s*.

DR. WILLIAM ADDISON, F.R.S.

I.

CELL THERAPEUTICS. 8vo. cloth, 4*s*.

II.

ON HEALTHY AND DISEASED STRUCTURE, AND THE TRUE

PRINCIPLES OF TREATMENT FOR THE CURE OF DISEASE, ESPECIALLY CONSUMPTION AND SCROFULA, founded on MICROSCOPICAL ANALYSIS. 8vo. cloth, 12*s*.

MR. ANDERSON, F.R.C.S.

I.

HYSTERICAL, HYPOCHONDRIACAL, EPILEPTIC, AND

OTHER NERVOUS AFFECTIONS; their Causes, Symptoms, and Treatment. 8vo. cloth, 5*s*.

II.

THE SYMPTOMS AND TREATMENT OF THE DISEASES OF

PREGNANCY. Post 8vo. 4*s*. 6*d*.

III.

THE ANATOMICAL REMEMBRANCER; OR, COMPLETE

POCKET ANATOMIST. Fifth Edition, carefully Revised. 32mo. cloth, 3*s*. 6*d*.

DR. JAMES ARNOTT.

I.

ON THE REMEDIAL AGENCY OF A LOCAL ANÆSTHENIC

OR BENUMBING TEMPERATURE, in various painful and inflammatory Diseases. 8vo. cloth, 4*s*. 6*d*.

II.

ON INDIGESTION; its Pathology and its Treatment, by the Local

Application of Uniform and Continuous Heat and Moisture. With an Account of an improved Mode of applying Heat and Moisture in Irritative and Inflammatory Diseases. With a Plate. 8vo. 5*s*.

III.

PRACTICAL ILLUSTRATIONS OF THE TREATMENT OF

OBSTRUCTIONS IN THE URETHRA, AND OTHER CANALS, BY THE DILATATION OF FLUID PRESSURE. 8vo. boards, 3*s*.

MR. F. A. ABEL, F.C.S., & MR. C. L. BLOXAM.

HANDBOOK OF CHEMISTRY: THEORETICAL, PRACTICAL, AND TECHNICAL. 8vo. cloth, 15*s*.

MR. T. J. ASHTON.

ON THE DISEASES, INJURIES, AND MALFORMATIONS OF THE RECTUM AND ANUS. 8vo. cloth, 8*s*.

MR. ATKINSON.

MEDICAL BIBLIOGRAPHY. Vol. I. Royal 8vo. 16*s*.

DR. WILLIAM BALY, F.R.S., & DR. WILLIAM W. GULL.

REPORTS ON EPIDEMIC CHOLERA; its Cause and Mode of Diffusion, Morbid Anatomy, Pathology and Treatment. Drawn up at the desire of the Cholera Committee of the Royal College of Physicians. With Maps, 8vo. cloth, 16*s*.

DR. BARLOW.

A MANUAL OF THE PRACTICE OF MEDICINE. Fcap. 8vo. cloth, 12*s*. 6*d*.

MR. RICHARD BARWELL, F.R.C.S.

ASIATIC CHOLERA; its Symptoms, Pathology, and Treatment. Post 8vo. cloth, 4*s*. 6*d*.

DR. BASCOME.

A HISTORY OF EPIDEMIC PESTILENCES, FROM THE EARLIEST AGES. 8vo. cloth, 8*s*.

MR. BATEMAN.

MAGNACOPIA: A Practical Library of Profitable Knowledge, communicating the general Minutiæ of Chemical and Pharmaceutic Routine, together with the generality of Secret Forms of Preparations; including Concentrated Solutions of Camphor and Copaiba in Water, Mineral Succedaneum, Marmoratum, Silicia, Terro-Metallicum, Pharmaceutic Condensions, Prismatic Crystallization, Crystallized Aromatic Salt of Vinegar, Spa Waters; newly-invented Writing Fluids; Etching on Steel or Iron; with an extensive Variety of *et cætera*. Third Edition. 18mo. 6*s*.

DR. BEALE.

I.

THE MICROSCOPE, AND ITS APPLICATION TO CLINICAL MEDICINE. With 232 Engravings on Wood. Post 8vo. cloth, 10*s*. 6*d*.

II.

ON THE ANATOMY OF THE LIVER. Illustrated with 66 Photographs of the Author's Drawings. 8vo. cloth, 6*s*. 6*d*.

MR. LIONEL J. BEALE, M.R.C.S.

I.

THE LAWS OF HEALTH IN THEIR RELATIONS TO MIND AND BODY. A Series of Letters from an Old Practitioner to a Patient. Post 8vo. cloth, 7*s.* 6*d.*

II.

HEALTH AND DISEASE, IN CONNECTION WITH THE GENERAL PRINCIPLES OF HYGIENE. Fcap. 8vo., 2*s.* 6*d.*

MR. BEASLEY.

I.

THE BOOK OF PRESCRIPTIONS; containing 2900 Prescriptions. Collected from the Practice of the most eminent Physicians and Surgeons, English and Foreign. 24mo. cloth, 6*s.*

II.

THE DRUGGISTS' GENERAL RECEIPT-BOOK: comprising a copious Veterinary Formulary and Table of Veterinary Materia Medica; Patent and Proprietary Medicines, Druggists' Nostrums, &c.; Perfumery, Skin Cosmetics, Hair Cosmetics, and Teeth Cosmetics; Beverages, Dietetic Articles, and Condiments; Trade Chemicals, Miscellaneous Preparations and Compounds used in the Arts, &c.; with useful Memoranda and Tables. Third Edition. 24mo. cloth, 6*s.*

III.

THE POCKET FORMULARY AND SYNOPSIS OF THE BRITISH AND FOREIGN PHARMACOPŒIAS; comprising standard and approved Formulæ for the Preparations and Compounds employed in Medical Practice. Sixth Edition, corrected and enlarged. 24mo. cloth, 6*s.*

DR. O'B. BELLINGHAM.

ON ANEURISM, AND ITS TREATMENT BY COMPRESSION. 12mo. cloth, 4*s.*

DR. HENRY BENNET.

I.

A PRACTICAL TREATISE ON INFLAMMATION AND OTHER DISEASES OF THE UTERUS. Third Edition, revised, with Additions. 8vo. cloth, 12*s.* 6*d.*

II.

A REVIEW OF THE PRESENT STATE OF UTERINE PATHOLOGY. 8vo. cloth, 4*s.*

MR. HENRY HEATHER BIGG.

ARTIFICIAL LIMBS; THEIR CONSTRUCTION AND APPLICATION. With Engravings on Wood. 8vo. cloth, 3*s.*

DR. BILLING, F.R.S.

I.

ON DISEASES OF THE LUNGS AND HEART. 8vo. cloth, 6*s.*

II.

FIRST PRINCIPLES OF MEDICINE. Fifth Edition, Revised and Improved. 8vo. 10*s.* 6*d.*

MR. P. HINCKES BIRD, F.R.C.S.

PRACTICAL TREATISE ON THE DISEASES OF CHILDREN AND INFANTS AT THE BREAST. Translated from the French of M. BOUCHUT, with Notes and Additions. 8vo. cloth. 20*s*.

DR. GOLDING BIRD, F.R.S.

I.

URINARY DEPOSITS; THEIR DIAGNOSIS, PATHOLOGY, AND THERAPEUTICAL INDICATIONS. With Engravings on Wood. Fourth Edition. Post 8vo. cloth, 10*s*. 6*d*.

II.

ELEMENTS OF NATURAL PHILOSOPHY; being an Experimental Introduction to the Study of the Physical Sciences. Illustrated with numerous Engravings on Wood. Fourth Edition. By GOLDING BIRD, M.D., F.R.S., and CHARLES BROOKE, M.B. Cantab., F.R.S. Fcap. 8vo. cloth, 12*s*. 6*d*.

MR. BISHOP, F.R.S.

I.

ON DEFORMITIES OF THE HUMAN BODY, their Pathology and Treatment. With Engravings on Wood. 8vo. cloth, 10*s*.

II.

ON ARTICULATE SOUNDS, AND ON THE CAUSES AND CURE OF IMPEDIMENTS OF SPEECH. 8vo. cloth, 4*s*.

III.

LETTSOMIAN LECTURES ON THE PHYSICAL CONSTITUTION, DISEASES AND FRACTURES OF BONES. Post 8vo., 2*s*. 6*d*.

DR. BLAKISTON, F.R.S.

PRACTICAL OBSERVATIONS ON CERTAIN DISEASES OF THE CHEST; and on the Principles of Auscultation. 8vo. cloth, 12*s*.

DR. JOHN W. F. BLUNDELL.

MEDICINA MECHANICA; or, the Theory and Practice of Active and Passive Exercises and Manipulations in the Cure of Chronic Disease. Post 8vo. cloth, 6*s*.

MR. WALTER BLUNDELL.

PAINLESS TOOTH-EXTRACTION WITHOUT CHLOROFORM; with Observations on Local Anæsthesia by Congelation in General Surgery. Second Edition, 2*s*. 6*d*. cloth. Illustrated on Wood and Stone.

MR. JOHN E. BOWMAN.

I.

PRACTICAL CHEMISTRY, including Analysis. With numerous Illustrations on Wood. Second Edition. Foolscap 8vo. cloth, 6*s*. 6*d*.

II.

MEDICAL CHEMISTRY; with Illustrations on Wood. Third Edition. Fcap. 8vo. cloth, 6*s*. 6*d*.

DR. BRINTON.

THE SYMPTOMS, PATHOLOGY, AND TREATMENT OF ULCER OF THE STOMACH. Post 8vo. cloth, 5*s*.

DR. JAMES BRIGHT.

ON DISEASES OF THE CHEST AND AIR PASSAGES; with a Review of the several Climates recommended in these Affections. Second Edition. Post 8vo. cloth, 7*s.* 6*d.*

MR. ISAAC BAKER BROWN, F.R.C.S.

I.

ON SOME DISEASES OF WOMEN ADMITTING OF SURGICAL TREATMENT. With Plates, 8vo. cloth, 10*s.* 6*d.*

II.

ON SCARLATINA: its Nature and Treatment. Second Edition. Fcap. 8vo. cloth, 3*s.*

MR. BERNARD E. BRODHURST.

I.

ON LATERAL CURVATURE OF THE SPINE: its Pathology and Treatment. Post 8vo. cloth, with Plates, 3*s.*

II.

ON THE NATURE AND TREATMENT OF CLUBFOOT AND ANALOGOUS DISTORTIONS involving the TIBIO-TARSAL ARTICULATION. With Engravings on Wood. 8vo. cloth, 4*s.* 6*d.*

DR. BUDD, F.R.S.

I.

ON DISEASES OF THE LIVER.

Illustrated with Coloured Plates and Engravings on Wood. Third Edition. *Preparing.*

II.

ON THE ORGANIC DISEASES AND FUNCTIONAL DISORDERS OF THE STOMACH. 8vo. cloth, 9*s.*

DR. BURNETT.

I.

THE PHILOSOPHY OF SPIRITS IN RELATION TO MATTER. 8vo. cloth, 9*s.*

II.

INSANITY TESTED BY SCIENCE. 8vo. cloth, 5*s.*

DR. WILLOUGHBY BURSLEM.

PULMONARY CONSUMPTION AND ITS TREATMENT. Post 8vo. cloth, 5*s.*

MR. ROBERT B. CARTER, M.R.C.S.

I.

ON THE INFLUENCE OF EDUCATION AND TRAINING IN PREVENTING DISEASES OF THE NERVOUS SYSTEM. Fcap. 8vo., 6*s.*

II.

THE PATHOLOGY AND TREATMENT OF HYSTERIA. Post 8vo. cloth, 4*s.* 6*d.*

DR. CARPENTER, F.R.S.

I.

PRINCIPLES OF HUMAN PHYSIOLOGY. With numerous Illustrations on Steel and Wood. Fifth Edition. 8vo. cloth, 26*s.*

II.

PRINCIPLES OF COMPARATIVE PHYSIOLOGY. Illustrated with 300 Engravings on Wood. Fourth Edition. 8vo. cloth, 24*s.*

III.

A MANUAL OF PHYSIOLOGY. With numerous Illustrations on Steel and Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

IV.

THE MICROSCOPE AND ITS REVELATIONS. With numerous Engravings on Wood. Fcap. 8vo. cloth, 12*s.* 6*d.*

DR. CHAMBERS.

DIGESTION AND ITS DERANGEMENTS. Post 8vo. cloth, 10*s.* 6*d.*

MR. H. T. CHAPMAN, F.R.C.S.

I.

THE TREATMENT OF OBSTINATE ULCERS AND CUTANEOUS ERUPTIONS OF THE LEG WITHOUT CONFINEMENT. Second Edition. Post 8vo. cloth, 3*s.* 6*d.*

II.

VARICOSE VEINS: their Nature, Consequences, and Treatment, Palliative and Curative. Post 8vo. cloth, 3*s.* 6*d.*

DR. G. C. CHILD.

ON INDIGESTION, AND CERTAIN BILIOUS DISORDERS OFTEN CONJOINED WITH IT. Second Edition. 8vo. cloth, 6*s.*

MR. J. PATERSON CLARK, M.A.

THE ODONTALGIST; OR, HOW TO PRESERVE THE TEETH, CURE TOOTHACHE, AND REGULATE DENTITION FROM INFANCY TO AGE. With plates. Post 8vo. cloth, 5*s.*

DR. CONOLLY.

THE CONSTRUCTION AND GOVERNMENT OF LUNATIC ASYLUMS AND HOSPITALS FOR THE INSANE. With Plans. Post 8vo. cloth, 6*s.*

LEWIS CORNARO.

SURE METHODS OF ATTAINING A LONG AND HEALTHFUL LIFE. Thirty-eighth Edition. 18mo., 1*s.*

MR. COOLEY.

COMPREHENSIVE SUPPLEMENT TO THE PHARMACOPŒIAS.

THE CYCLOPÆDIA OF PRACTICAL RECEIPTS, AND COLLATERAL INFORMATION IN THE ARTS, PROFESSIONS, MANUFACTURES, AND TRADES, INCLUDING MEDICINE, PHARMACY, AND DOMESTIC ECONOMY;

designed as a Compendious Book of Reference for the Manufacturer, Tradesman, Amateur, and Heads of Families. Third and greatly enlarged Edition, 8vo. cloth, 26*s*.

MR. BRANSBY B. COOPER, F.R.S.

LECTURES ON THE PRINCIPLES AND PRACTICE OF SURGERY.

8vo. cloth, 21*s*.

MR. W. WHITE COOPER.

ON NEAR SIGHT, AGED SIGHT, IMPAIRED VISION, AND THE MEANS OF ASSISTING SIGHT.

With 31 Illustrations on Wood. Second Edition. Fcap. 8vo. cloth, 7*s*. 6*d*

[redacted]

[redacted]

A DICTIONARY OF PRACTICAL SURGERY;

comprehending all the most interesting Improvements, from the Earliest Times down to the Present Period. Seventh Edition. One very thick volume, 8vo., 1*l*. 10*s*.

SIR ASTLEY COOPER, BART., F.R.S.

ON THE STRUCTURE AND DISEASES OF THE TESTIS.

Illustrated with 24 highly finished Coloured Plates. Second Edition. Royal 4to.

Reduced from £3. 3*s*. *to* £1. 10*s*.

MR. HOLMES COOTE, F.R.C.S.

A REPORT ON SOME IMPORTANT POINTS IN THE TREATMENT OF SYPHILIS.

8vo. cloth, 5*s*.

DR. COPEMAN.

RECORDS OF OBSTETRIC CONSULTATION PRACTICE;

and a TRANSLATION of BUSCH and MOSER on UTERINE HÆMORRHAGE; with Notes and Cases. Post 8vo. cloth, 5*s*.

DR. COTTLE.

A MANUAL OF HUMAN PHYSIOLOGY FOR STUDENTS;

being a Condensation of the Subject, a Conservation of the Matter, and a Record of Facts and Principles up to the present Day. Fcap. 8vo., 5*s*.

DR. COTTON.

I.

ON CONSUMPTION: Its Nature, Symptoms, and Treatment.

To which Essay was awarded the Fothergillian Gold Medal of the Medical Society of London. 8vo. cloth, 8*s*.

II.

PHTHISIS AND THE STETHOSCOPE: a concise Practical Guide to the Physical Diagnosis of Consumption.

Foolscap 8vo. cloth, 3*s*. 6*d*.

MR. COULSON.

I.

ON DISEASES OF THE BLADDER AND PROSTATE GLAND. The Fifth Edition, revised and enlarged. 8vo. cloth, 10*s.* 6*d.*

II.

ON LITHOTRITY AND LITHOTOMY; with Engravings on Wood. 8vo. cloth, 8*s.*

III.

ON DISEASES OF THE JOINTS. 8vo. *In the Press.*

DR. JOHN GREEN CROSSE, F.R.S.

CASES IN MIDWIFERY, arranged, with an Introduction and Remarks by EDWARD COPEMAN, M.D., F.R.C.S. 8vo. cloth, 7*s.* 6*d.*

MR. [redacted] F.R.S.

I.

OBSERVATIONS ON [redacted], Second Edition. 8vo. cloth, 5*s.*

II.

A PRACTICAL TREATISE ON DISEASES OF THE TESTIS, SPERMATIC CORD, AND SCROTUM. Second Edition, with Additions. 8vo. cloth, 14*s.*

MR. JOHN DALRYMPLE, F.R.S., F.R.C.S.

PATHOLOGY OF THE HUMAN EYE. Complete in Nine Fasciculi: imperial 4to., 20*s.* each; half-bound morocco, gilt tops, 9*l.* 15*s.*

DR. DAVEY.

ON THE NATURE AND PROXIMATE CAUSE OF INSANITY. Post 8vo. cloth, 3*s.*

DR. HERBERT DAVIES.

ON THE PHYSICAL DIAGNOSIS OF DISEASES OF THE LUNGS AND HEART. Second Edition. Post 8vo. cloth, 8*s.*

MR. DIXON.

A GUIDE TO THE PRACTICAL STUDY OF DISEASES OF THE EYE. Post 8vo. cloth, 8*s.* 6*d.*

DR. TOOGOOD DOWNING.

NEURALGIA: its various Forms, Pathology, and Treatment. THE JACKSONIAN PRIZE ESSAY FOR 1850. 8vo. cloth, 10*s.* 6*d.*

DR. DRUITT, F.R.C.S.

THE SURGEON'S VADE-MECUM; with numerous Engravings on Wood. Seventh Edition. Foolscap 8vo. cloth, 12*s.* 6*d.*

DR. JOHN C. EGAN.

SYPHILITIC DISEASES: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT: including Experimental Researches on Inoculation, as a Differential Agent in Testing the Character of these Affections. 8vo. cloth, 9*s.*

SIR JAMES EYRE, M.D.

I.

THE STOMACH AND ITS DIFFICULTIES. Fourth Edition. Fcap. 8vo. cloth, 2*s.* 6*d.*

II.

PRACTICAL REMARKS ON SOME EXHAUSTING DISEASES. Second Edition. Post 8vo. cloth, 4*s.* 6*d.*

MR. FERGUSSON, F.R.S.

A SYSTEM OF PRACTICAL SURGERY; with numerous Illustrations on Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

SIR JOHN FORBES, M.D., D.C.L. (OXON.), F.R.S.

NATURE AND ART IN THE CURE OF DISEASE. Post 8vo. cloth, 6*s.*

DR. D. J. T. FRANCIS.

CHANGE OF CLIMATE; considered as a Remedy in Dyspeptic, Pulmonary, and other Chronic Affections; with an Account of the most Eligible Places of Residence for Invalids in Spain, Portugal, Algeria, &c., at different Seasons of the Year; and an Appendix on the Mineral Springs of the Pyrenees, Vichy, and Aix les Bains. Post 8vo. cloth, 8*s.* 6*d.*

C. REMIGIUS FRESENIUS.

ELEMENTARY INSTRUCTION IN CHEMICAL ANALYSIS, AS PRACTISED IN THE LABORATORY OF GIESSEN. Edited by LLOYD BULLOCK, late Student at Giessen.

QUALITATIVE; Fourth Edition. 8vo. cloth, 9*s.*

QUANTITATIVE. Second Edition. 8vo. cloth, 15*s.*

MR. FRENCH, F.R.C.S.

THE NATURE OF CHOLERA INVESTIGATED. Second Edition. 8vo. cloth, 4*s.*

MR. FOWNES, PH.D., F.R.S.

I.

A MANUAL OF CHEMISTRY; with numerous Illustrations on Wood. Sixth Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

Edited by H. BENCE JONES, M.D., F.R.S., and A. W. HOFMANN, PH.D., F.R.S.

II.

CHEMISTRY, AS EXEMPLIFYING THE WISDOM AND BENEFICENCE OF GOD. Second Edition. Fcap. 8vo. cloth, 4*s.* 6*d.*

III.

INTRODUCTION TO QUALITATIVE ANALYSIS. Post 8vo. cloth, 2*s.*

IV.

CHEMICAL TABLES. Folio, price 2*s.* 6*d.*

DR. FULLER.

ON RHEUMATISM, RHEUMATIC GOUT, AND SCIATICA: their Pathology, Symptoms, and Treatment. Second Edition. 8vo. cloth, 12*s.* 6*d.*

DR. GAIRDNER.

ON GOUT; its History, its Causes, and its Cure. Third Edition. Post 8vo. cloth, 8*s.* 6*d.*

MR. GALLOWAY.

I.

THE FIRST STEP IN CHEMISTRY. Second Edition. Fcap. 8vo. cloth, 5*s.*

II.

CHEMICAL DIAGRAMS. On Four large Sheets, for School and Lecture Rooms. 5*s.* 6*d.* the Set.

MR. ROBERT GARNER, F.L.S.

EUTHERAPEIA; or, AN EXAMINATION OF THE PRINCIPLES OF MEDICAL SCIENCE, including Researches on the Nervous System. Illustrated with 9 Engravings on Copper, and Engravings on Wood. 8vo. cloth, 8*s.*

DR. GARRETT.

ON EAST AND NORTH-EAST WINDS; the Nature, Treatment, and Prevention of their Suffocating Effects. Fcap. 8vo. cloth, 4*s.* 6*d.*

MR. GAY, F.R.C.S.E.

I.

FEMORAL RUPTURE: ITS ANATOMY, PATHOLOGY, AND SURGERY. With a New Mode of Operating. 4to., Plates, 10*s.* 6*d.*

II.

A MEMOIR ON INDOLENT ULCERS. Post 8vo. cloth, 3*s.* 6*d.*

DR. GLOVER.

ON THE PATHOLOGY AND TREATMENT OF SCROFULA; being the Forthergillian Prize Essay for 1846. With Plates. 8vo. cloth, 10*s.* 6*d.*

DR. GRANVILLE, F.R.S.

ON SUDDEN DEATH. Post 8vo., 2*s.* 6*d.*

MR. GRAY, M.R.C.S.

PRESERVATION OF THE TEETH indispensable to Comfort and Appearance, Health, and Longevity. 18mo. cloth, 3*s.*

MR. GRIFFITHS.

CHEMISTRY OF THE FOUR SEASONS — Spring, Summer, Autumn, Winter. Illustrated with Engravings on Wood. Second Edition. Foolscap 8vo. cloth, 7*s.* 6*d.*

DR. GULLY.

I.

THE WATER CURE IN CHRONIC DISEASE: an Exposition of the Causes, Progress, and Terminations of various Chronic Diseases of the Viscera, Nervous System, and Limbs, and of their Treatment by Water and other Hygienic Means. Fifth Edition. Foolscap 8vo. sewed, 2*s.* 6*d.*

II.

THE SIMPLE TREATMENT OF DISEASE; deduced from the Methods of Expectancy and Revulsion. 18mo. cloth, 4*s.*

DR. GUY.

HOOPER'S PHYSICIAN'S VADE-MECUM; OR, MANUAL OF THE PRINCIPLES AND PRACTICE OF PHYSIC. New Edition, considerably enlarged, and rewritten. Foolscap 8vo. cloth, 12*s.* 6*d.*

GUY'S HOSPITAL REPORTS. Third Series. Vols. I. and II., 8vo., 7*s.* 6*d.* each.

DR. MARSHALL HALL, F.R.S.

PRACTICAL OBSERVATIONS AND SUGGESTIONS IN MEDICINE. Post 8vo. cloth, 8*s.* 6*d.*

DITTO. Second Series. Post 8vo. cloth, 8*s.* 6*d.*

MR. HARDWICH.

A MANUAL OF PHOTOGRAPHIC CHEMISTRY. Third Edition. Foolscap 8vo. cloth, 6*s.* 6*d.*

MR. HARE, M.R.C.S.

PRACTICAL OBSERVATIONS ON THE PREVENTION, CAUSES, AND TREATMENT OF CURVATURES OF THE SPINE; with Engravings. Third Edition. 8vo. cloth, 6*s.*

MR. HARRISON, F.R.C.S.

THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA. 8vo. cloth, 7*s.* 6*d.*

MR. JAMES B. HARRISON, F.R.C.S.

ON THE CONTAMINATION OF WATER BY THE POISON OF LEAD, and its Effects on the Human Body. Foolscap 8vo. cloth, 3*s.* 6*d.*

DR. HARTWIG.

I.

ON SEA BATHING AND SEA AIR. Fcap. 8vo., 2*s.* 6*d.*

II.

ON THE PHYSICAL EDUCATION OF CHILDREN. Fcap. 8vo., 2*s.* 6*d.*

MR. ALFRED HAVILAND, M.R.C.S.

CLIMATE, WEATHER, AND DISEASE; being a Sketch of the Opinions of the most celebrated Ancient and Modern Writers with regard to the Influence of Climate and Weather in producing Disease. With Four coloured Engravings. 8vo. cloth, 7*s.*

DR. HEADLAND.

ON THE ACTION OF MEDICINES IN THE SYSTEM. Being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1852. Second Edition. 8vo. cloth, 10*s.*

MR. HIGGINBOTTOM, F.R.S., F.R.C.S.

I.

ADDITIONAL OBSERVATIONS ON THE NITRATE OF SILVER; with full Directions for its Use as a Therapeutic Agent. 8vo., 2*s.* 6*d.*

II.

AN ESSAY ON THE USE OF THE NITRATE OF SILVER IN THE CURE OF INFLAMMATION, WOUNDS, AND ULCERS. Second Edition. Price 5*s.*

MR. JOHN HILTON, F.R.S.

ON THE DEVELOPMENT AND DESIGN OF CERTAIN PORTIONS OF THE CRANIUM. Illustrated with Plates in Lithography. 8vo. cloth, 6*s.*

DR. HINDS.

THE HARMONIES OF PHYSICAL SCIENCE IN RELATION TO THE HIGHER SENTIMENTS; with Observations on Medical Studies, and on the Moral and Scientific Relations of Medical Life. Post 8vo., cloth, 5*s*.

DR. DECIMUS HODGSON.

THE PROSTATE GLAND, AND ITS ENLARGEMENT IN OLD AGE. With 12 Plates. Royal 8vo., cloth, 6*s*.

MR. LUTHER HOLDEN, F.R.C.S.

HUMAN OSTEOLOGY: with Plates, showing the Attachments of the Muscles. 8vo. cloth, 16*s*.

DR. G. CALVERT HOLLAND.

THE CONSTITUTION OF THE ANIMAL CREATION, expressed in Structural Appendages, as Hair, Horns, Tusks, and Fat. 8vo. cloth, 10*s*. 6*d*.

MR. C. HOLTHOUSE.

LECTURES ON STRABISMUS, delivered at the Westminster Hospital. 8vo. cloth, 4*s*.

DR. W. CHARLES HOOD.

SUGGESTIONS FOR THE FUTURE PROVISION OF CRIMINAL LUNATICS. 8vo. cloth, 5*s*. 6*d*.

DR. HOOPER.

THE MEDICAL DICTIONARY; containing an Explanation of the Terms used in Medicine and the Collateral Sciences. Eighth Edition. Edited by KLEIN GRANT, M.D. 8vo. cloth, 30*s*.

MR. JOHN HORSLEY.

A CATECHISM OF CHEMICAL PHILOSOPHY; being a Familiar Exposition of the Principles of Chemistry and Physics. With Engravings on Wood. Designed for the Use of Schools and Private Teachers. Post 8vo. cloth, 6*s*. 6*d*.

DR. HUFELAND.

THE ART OF PROLONGING LIFE. A New Edition. Edited by ERASMUS WILSON, F.R.S. Foolscap 8vo., 2*s*. 6*d*.

DR. HENRY HUNT.

ON HEARTBURN AND INDIGESTION. 8vo. cloth, 5*s*.

MR. THOMAS HUNT, M.R.C.S.

THE PATHOLOGY AND TREATMENT OF CERTAIN DISEASES OF THE SKIN, generally pronounced Intractable. Illustrated by upwards of Forty Cases. 8vo. cloth, 6*s*.

DR. ARTHUR JACOB, F.R.C.S.

A TREATISE ON THE INFLAMMATIONS OF THE EYE-BALL. Foolscap 8vo. cloth, 5*s*.

DR. JAMES JAGO, A.B., CANTAB.; M.B., OXON.

OCULAR SPECTRES AND STRUCTURES AS MUTUAL EXPONENTS. Illustrated with Engravings on Wood. 8vo. cloth, 5*s*.

DR. HANDFIELD JONES, F.R.S.

PATHOLOGICAL AND CLINICAL OBSERVATIONS RESPECTING MORBID CONDITIONS OF THE STOMACH. Coloured Plates, 8vo. cloth, 9*s*.

DR. HANDFIELD JONES, F.R.S., & DR. EDWARD H. SIEVEKING.

A MANUAL OF PATHOLOGICAL ANATOMY. Illustrated with numerous Engravings on Wood. Foolscap 8vo. cloth, 12*s*. 6*d*.

MR. WHARTON JONES, F.R.S.

I.

A MANUAL OF THE PRINCIPLES AND PRACTICE OF OPHTHALMIC MEDICINE AND SURGERY; illustrated with Engravings, plain and coloured. Second Edition. Foolscap 8vo. cloth, 12*s*. 6*d*.

II.

THE WISDOM AND BENEFICENCE OF THE ALMIGHTY, AS DISPLAYED IN THE SENSE OF VISION; being the Actonian Prize Essay for 1851. With Illustrations on Steel and Wood. Foolscap 8vo. cloth, 4*s*. 6*d*.

III.

DEFECTS OF SIGHT: their Nature, Causes, Prevention, and General Management. Fcap. 8vo. 2*s*. 6*d*.

DR. BENCE JONES, F.R.S.

ON ANIMAL CHEMISTRY, in its relation to STOMACH and RENAL DISEASES. 8vo. cloth, 6*s*.

MR. KNAGGS.

UNSOUNDNESS OF MIND CONSIDERED IN RELATION TO THE QUESTION OF RESPONSIBILITY IN CRIMINAL CASES. 8vo. cloth, 4*s*. 6*d*.

DR. LAENNEC.

A MANUAL OF AUSCULTATION AND PERCUSSION. Translated and Edited by J. B. SHARPE, M.R.C.S. 3*s*.

DR. HUNTER LANE, F.L.S.

A COMPENDIUM OF MATERIA MEDICA AND PHARMACY; adapted to the London Pharmacopœia, 1851, embodying all the new French, American, and Indian Medicines, and also comprising a Summary of Practical Toxicology. Second Edition. 24mo. cloth, *5s. 6d.*

MR. LAURENCE, F.R.C.S.

THE DIAGNOSIS OF SURGICAL CANCER. The Liston Prize Essay for 1854. Plates, 8vo. cloth, *4s. 6d.*

MR. LAWRENCE, F.R.S.

A TREATISE ON RUPTURES. The Fifth Edition, considerably enlarged. 8vo. cloth, *16s.*

MR. EDWIN LEE.

I.

THE WATERING PLACES OF ENGLAND, CONSIDERED with Reference to their Medical Topography. Third Edition. Foolscap 8vo. cloth, *5s. 6d.*

II.

THE BATHS OF FRANCE, CENTRAL GERMANY, &c. Third Edition. Post 8vo. cloth, *6s. 6d.*

III.

THE BATHS OF RHENISH GERMANY. Post 8vo. *2s. 6d.*

MR. HENRY LEE, F.R.C.S.

PATHOLOGICAL AND SURGICAL OBSERVATIONS; including an Essay on the Surgical Treatment of Hemorrhoidal Tumors. 8vo. cloth, *7s. 6d.*

DR. ROBERT LEE, F.R.S.

I.

CLINICAL REPORTS OF OVARIAN AND UTERINE DISEASES, with Commentaries. Foolscap 8vo. cloth, *6s. 6d.*

II.

CLINICAL MIDWIFERY: comprising the Histories of 545 Cases of Difficult, Preternatural, and Complicated Labour, with Commentaries. Second Edition. Foolscap 8vo. cloth, *5s.*

III.

PRACTICAL OBSERVATIONS ON DISEASES OF THE UTERUS. With coloured Plates. Two Parts. Imperial 4to., *7s. 6d.* each Part.

MR. LISTON, F.R.S.

PRACTICAL SURGERY. Fourth Edition. 8vo. cloth, *22s.*

LONDON MEDICAL SOCIETY OF OBSERVATION.

WHAT TO OBSERVE AT THE BED-SIDE, AND AFTER DEATH. Published by Authority. Second Edition. Foolscap 8vo. cloth, *4s. 6d.*

MR. EDWARD F. LONSDALE.

OBSERVATIONS ON THE TREATMENT OF LATERAL CURVATURE OF THE SPINE. Second Edition. 8vo. cloth, *6s.*

M. LUGOL.

ON SCROFULOUS DISEASES. Translated from the French, with Additions by W. H. RANKING, M.D., Physician to the Suffolk General Hospital. 8vo. cloth, *10s. 6d.*

MR. JOSEPH MACLISE, F.R.C.S.

SURGICAL ANATOMY. A Series of Dissections, illustrating the Principal Regions of the Human Body.
The Second Edition, complete in XIII. Fasciculi. Imperial folio, *5s.* each; bound in cloth, £3. 12*s.*; or bound in morocco, £4. 4*s.*

MR. MACILWAIN.

ON TUMOURS, THEIR GENERAL NATURE AND TREATMENT. 8vo. cloth, *5s.*

DR. MAYNE.

AN EXPOSITORY LEXICON OF THE TERMS, ANCIENT AND MODERN, IN MEDICAL AND GENERAL SCIENCE, including a complete MEDICAL AND MEDICO-LEGAL VOCABULARY, and presenting the correct Pronunciation, Derivation, Definition, and Explanation of the Names, Analogues, Synonymes, and Phrases (in English, Latin, Greek, French, and German,) employed in Science and connected with Medicine. Parts I. to V., price *5s.* each.

DR. WM. H. MADDEN.

THOUGHTS ON PULMONARY CONSUMPTION; with an Appendix on the Climate of Torquay. Post 8vo. cloth, *5s.*

DR. MARCET.

ON THE COMPOSITION OF FOOD, AND HOW IT IS ADULTERATED; with Practical Directions for its Analysis. 8vo. cloth, *6s. 6d.*

DR. MARKHAM.

I.

DISEASES OF THE HEART: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT. Post. 8vo. cloth, 6*s.*

II.

SKODA ON AUSCULTATION AND PERCUSSION. Post 8vo. cloth, 6*s.*

DR. MARTIN.

THE UNDERCLIFF, ISLE OF WIGHT: its Climate, History, and Natural Productions. Post 8vo. cloth, 10*s.* 6*d.*

MR. J. RANALD MARTIN, F.R.S.

THE INFLUENCE OF TROPICAL CLIMATES ON EUROPEAN CONSTITUTIONS. Originally by the late JAMES JOHNSON, M.D., and now entirely rewritten; including Practical Observations on the Diseases of European Invalids on their Return from Tropical Climates. Seventh Edition. 8vo. cloth, 16*s.*

DR. MASSY.

ON THE EXAMINATION OF RECRUITS; intended for the Use of Young Medical Officers on Entering the Army. 8vo. cloth, 5*s.*

DR. MILLINGEN.

ON THE TREATMENT AND MANAGEMENT OF THE INSANE; with Considerations on Public and Private Lunatic Asylums. 18mo. cloth, 4*s.* 6*d.*

MR. JOHN L. MILTON, M.R.C.S.

PRACTICAL OBSERVATIONS ON A NEW WAY OF TREATING GONORRHŒA. With some Remarks on the Cure of Inveterate Cases. 8vo. cloth, 5*s.*

DR. MONRO.

I.

REMARKS ON INSANITY: its Nature and Treatment. 8vo. cloth, 6*s.*

II.

REFORM IN PRIVATE LUNATIC ASYLUMS. 8vo. cloth, 4*s.*

DR. NOBLE.

I.

ELEMENTS OF PSYCHOLOGICAL MEDICINE: AN INTRODUCTION TO THE PRACTICAL STUDY OF INSANITY. Second Edition. 8vo. cloth, 10*s*.

II.

THE BRAIN AND ITS PHYSIOLOGY. Post 8vo. cloth, 6*s*.

DR. J. NOTTINGHAM.

PRACTICAL OBSERVATIONS ON CONICAL CORNEA, AND on the Short Sight, and other Defects of Vision connected with it. 8vo. cloth, 6*s*.

MR. NOURSE, M.R.C.S.

TABLES FOR STUDENTS. Price One Shilling.

1. Divisions and Classes of the Animal Kingdom.
2. Classes and Orders of the Vertebrate Sub-kingdom.
3. Classes of the Vegetable Kingdom, according to the Natural and Artificial Systems.
4. Table of the Elements, with their Chemical Equivalents and Symbols.

MR. NUNNELEY.

A TREATISE ON THE NATURE, CAUSES, AND TREATMENT OF ERYSIPELAS. 8vo. cloth, 10*s*. 6*d*.

Oxford Editions.—Edited by Dr. GREENHILL.

I. ADDRESS TO A MEDICAL STUDENT. Second Edition, 18mo. cloth, 2*s*. 6*d*.
II. PRAYERS FOR THE USE OF THE MEDICAL PROFESSION. Second Edition, cloth, 1*s*. 6*d*.
III. LIFE OF SIR JAMES STONHOUSE, BART., M.D. Cloth, 4*s*. 6*d*.
IV. ANECDOTA SYDENHAMIANA. Second Edition, 18mo. 2*s*.
V. LIFE OF THOMAS HARRISON BURDER, M.D. 18mo. cloth, 4*s*.
VI. BURDER'S LETTERS FROM A SENIOR TO A JUNIOR PHYSICIAN, ON PROMOTING THE RELIGIOUS WELFARE OF HIS PATIENTS. 18mo. sewed, 6*d*.
VII. LIFE OF GEORGE CHEYNE, M.D. 18mo. sewed, 2*s*. 6*d*.
VIII. HUFELAND ON THE RELATIONS OF THE PHYSICIAN TO THE SICK, TO THE PUBLIC, AND TO HIS COLLEAGUES. 18mo. sewed, 9*d*.
IX. GISBORNE ON THE DUTIES OF PHYSICIANS. 18mo. sewed, 1*s*.
X. LIFE OF CHARLES BRANDON TRYE. 18mo. sewed, 1*s*.
XI. PERCIVAL'S MEDICAL ETHICS. Third Edition, 18mo. cloth, 3*s*.
XII. CODE OF ETHICS OF THE AMERICAN MEDICAL ASSOCIATION. 8*d*.
XIII. WARE ON THE DUTIES AND QUALIFICATIONS OF PHYSICIANS. 8*d*.
XIV. MAURICE ON THE RESPONSIBILITIES OF MEDICAL STUDENTS. 9*d*.
XV. FRASER'S QUERIES IN MEDICAL ETHICS. 9*d*.

DR. ODLING.

A COURSE OF PRACTICAL CHEMISTRY, FOR THE USE OF MEDICAL STUDENTS. Arranged with express reference to the Three Months' Summer Course. Post 8vo. cloth, 4*s.* 6*d.*

MR. PAGET.

A DESCRIPTIVE CATALOGUE OF THE ANATOMICAL MUSEUM OF ST. BARTHOLOMEW'S HOSPITAL. Vol. I. Morbid Anatomy. 8vo. cloth, 5*s.*

DITTO. Vol. II. Natural and Congenitally Malformed Structures, and Lists of the Models, Casts, Drawings, and Diagrams. 5*s.*

MR. LANGSTON PARKER.

THE MODERN TREATMENT OF SYPHILITIC DISEASES, both Primary and Secondary; comprising the Treatment of Constitutional and Confirmed Syphilis, by a safe and successful Method. Third Edition, 8vo. cloth, 10*s.*

DR. THOMAS B. PEACOCK, M.D.

ON THE INFLUENZA, OR EPIDEMIC CATARRHAL FEVER OF 1847-8. 8vo. cloth, 5*s.* 6*d.*

DR. PEREIRA, F.R.S.

SELECTA E PRÆSCRIPTIS. Twelfth Edition. 24mo. cloth, 5*s.*

MR. PETTIGREW, F.R.S.

ON SUPERSTITIONS connected with the History and Practice of Medicine and Surgery. 8vo. cloth, 7*s.*

MR. PIRRIE, F.R.S.E.

THE PRINCIPLES AND PRACTICE OF SURGERY. With numerous Engravings on Wood. 8vo. cloth, 21*s.*

PHARMACOPŒIA COLLEGII REGALIS MEDICORUM LONDINENSIS. 8vo. cloth, 9*s.*; or 24mo. 5*s.*

IMPRIMATUR.

Hic liber, cui titulus, PHARMACOPŒIA COLLEGII REGALIS MEDICORUM LONDINENSIS. Datum ex Ædibus Collegii in comitiis censoriis, Novembris Mensis 14^to^ 1850.

JOHANNES AYRTON PARIS. *Præses.*

PROFESSORS PLATTNER & MUSPRATT.

THE USE OF THE BLOWPIPE IN THE EXAMINATION OF

MINERALS, ORES, AND OTHER METALLIC COMBINATIONS. Illustrated by numerous Engravings on Wood. Third Edition. 8vo. cloth, 10*s.* 6*d.*

THE PRESCRIBER'S PHARMACOPŒIA; containing all the Medicines in the London Pharmacopœia, arranged in Classes according to their Action, with their Composition and Doses. By a Practising Physician. Fourth Edition. 32mo. cloth, 2*s.* 6*d.*; roan tuck (for the pocket), 3*s.* 6*d.*

DR. JOHN ROWLISON PRETTY.

AIDS DURING LABOUR, including the Administration of Chloroform, the Management of Placenta and Post-partum Hæmorrhage. Fcap. 8vo. cloth, 4*s.* 6*d.*

SIR WM. PYM, K.C.H.

OBSERVATIONS UPON YELLOW FEVER, with a Review of "A Report upon the Diseases of the African Coast, by Sir Wm. Burnett and Dr. Bryson," proving its highly Contagious Powers. Post 8vo. 6*s.*

DR. RADCLIFFE.

EPILEPSY, AND OTHER AFFECTIONS OF THE NERVOUS SYSTEM which are marked by Tremor, Convulsion, or Spasm: their Pathology and Treatment. 8vo. cloth, 5*s.*

DR. F. H. RAMSBOTHAM.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY. Illustrated with One Hundred and Twenty Plates on Steel and Wood; forming one thick handsome volume. Fourth Edition. 8vo. cloth, 22*s.*

DR. RAMSBOTHAM.

PRACTICAL OBSERVATIONS ON MIDWIFERY, with a Selection of Cases. Second Edition. 8vo. cloth, 12*s.*

DR. RANKING & DR. RADCLIFFE.

HALF-YEARLY ABSTRACT OF THE MEDICAL SCIENCES;

being a Practical and Analytical Digest of the Contents of the Principal British and Continental Medical Works published in the preceding Half-Year; together with a Critical Report of the Progress of Medicine and the Collateral Sciences during the same period.

Volumes I. to XXIV., 6*s.* 6*d.* each.

DR. DU BOIS REYMOND.

ANIMAL ELECTRICITY; Edited by H. BENCE JONES, M.D., F.R.S. With Fifty Engravings on Wood. Foolscap 8vo. cloth, 6*s*.

DR. REYNOLDS.

THE DIAGNOSIS OF DISEASES OF THE BRAIN, SPINAL CORD, AND THEIR APPENDAGES. 8vo. cloth, 8*s*.

DR. EVANS RIADORE, F.R.C.S., F.L.S.

I.

ON SPINAL IRRITATION, THE SOURCE OF NERVOUSNESS, INDIGESTION, AND FUNCTIONAL DERANGEMENTS OF THE PRINCIPAL ORGANS OF THE BODY. Post 8vo. cloth, 5*s*. 6*d*.

II.

THE REMEDIAL INFLUENCE OF OXYGEN, NITROUS OXYDE, AND OTHER GASES, ELECTRICITY, AND GALVANISM. Post 8vo. cloth, 5*s*. 6*d*.

III.

ON LOCAL TREATMENT OF THE MUCOUS MEMBRANE OF THE THROAT, for Cough and Bronchitis. Foolscap 8vo. cloth, 3*s*.

IV.

ON MECHANICAL SUPPORT TO THE RECTUM, FOR THE TREATMENT OF PROLAPSUS AND HÆMORRHOIDS. Fcap. 8vo. cloth, 3*s*.

MR. ROBERTON.

ON THE PHYSIOLOGY AND DISEASES OF WOMEN, AND ON PRACTICAL MIDWIFERY. 8vo. cloth, 12*s*.

DR. W. H. ROBERTSON.

I.

THE NATURE AND TREATMENT OF GOUT.

8vo. cloth, 10*s*. 6*d*.

II.

A TREATISE ON DIET AND REGIMEN.

Fourth Edition. 2 vols. post 8vo. cloth, 12*s*.

DR. ROTH.

ON MOVEMENTS. An Exposition of their Principles and Practice, for the Correction of the Tendencies to Disease in Infancy, Childhood, and Youth, and for the Cure of many Morbid Affections in Adults. Illustrated with numerous Engravings on Wood. 8vo. cloth, 10*s*.

DR. ROWE, F.S.A.

NERVOUS DISEASES, LIVER AND STOMACH COMPLAINTS, LOW SPIRITS, INDIGESTION, GOUT, ASTHMA, AND DISORDERS PRODUCED BY TROPICAL CLIMATES. With Cases. Fifteenth Edition. Fcap. 8vo. 2*s.* 6*d.*

DR. ROYLE, F.R.S.

A MANUAL OF MATERIA MEDICA AND THERAPEUTICS. With numerous Engravings on Wood. Third Edition. Fcap. 8vo. cloth, 12*s.* 6*d.*

MR. RUMSEY, F.R.C.S.

ESSAYS ON STATE MEDICINE. 8vo. cloth, 10*s.* 6*d.*

MR. SAVORY.

A COMPENDIUM OF DOMESTIC MEDICINE, AND COMPANION TO THE MEDICINE CHEST; comprising Plain Directions for the Employment of Medicines, with their Properties and Doses, and Brief Descriptions of the Symptoms and Treatment of Diseases, and of the Disorders incidental to Infants and Children, with a Selection of the most efficacious Prescriptions. Intended as a Source of Easy Reference for Clergymen, and for Families residing at a Distance from Professional Assistance. Fifth Edition. 12mo. cloth, 5*s.*

DR. SCHACHT.

THE MICROSCOPE, AND ITS APPLICATION TO VEGETABLE ANATOMY AND PHYSIOLOGY. Edited by FREDERICK CURREY, M.A. Fcap. 8vo. cloth, 6*s.*

DR. SHAPTER.

I.

THE CLIMATE OF THE SOUTH OF DEVON, AND ITS INFLUENCE UPON HEALTH. With short Accounts of Exeter, Torquay, Teignmouth, Dawlish, Exmouth, Sidmouth, &c. Illustrated with a Map geologically coloured. Post 8vo. cloth, 7*s.* 6*d.*

II.

THE HISTORY OF THE CHOLERA IN EXETER IN 1832. Illustrated with Map and Woodcuts. 8vo. cloth, 12*s.*

MR. SHAW, M.R.C.S.

THE MEDICAL REMEMBRANCER; OR, BOOK OF EMERGENCIES: in which are concisely pointed out the Immediate Remedies to be adopted in the First Moments of Danger from Poisoning, Drowning, Apoplexy, Burns, and other Accidents; with the Tests for the Principal Poisons, and other useful Information. Fourth Edition. Edited, with Additions, by JONATHAN HUTCHINSON, M.R.C.S. 32mo. cloth, 2*s.* 6*d.*

DR. SIBSON, F.R.S.

MEDICAL ANATOMY. With coloured Plates. Imperial folio. Fasciculi I. to V. 5*s.* each.

MR. SKEY, F.R.S.

OPERATIVE SURGERY; with Illustrations engraved on Wood. 8vo. cloth, 12*s.* 6*d.*

DR. SMELLIE.

OBSTETRIC PLATES: being a Selection from the more Important and Practical Illustrations contained in the Original Work. With Anatomical and Practical Directions. 8vo. cloth, 5*s.*

DR. W. TYLER SMITH.

I.

THE PATHOLOGY AND TREATMENT OF LEUCORRHŒA. With Engravings on Wood. 8vo. cloth, 7*s.*

II.

THE PERIODOSCOPE, a new Instrument for determining the Date of Labour, and other Obstetric Calculations, with an Explanation of its Uses, and an Essay on the Periodic Phenomena attending Pregnancy and Parturition. 8vo. cloth, 4*s.*

DR. SNOW.

ON THE MODE OF COMMUNICATION OF CHOLERA. Second Edition, much Enlarged, and Illustrated with Maps. 8vo. cloth, 7*s.*

DR. STANHOPE TEMPLEMAN SPEER.

PATHOLOGICAL CHEMISTRY, IN ITS APPLICATION TO THE PRACTICE OF MEDICINE. Translated from the French of MM. BECQUEREL and RODIER. 8vo. cloth, 12*s.*

DR. SPURGIN.

LECTURES ON MATERIA MEDICA, AND ITS RELATIONS TO THE ANIMAL ECONOMY. Delivered before the Royal College of Physicians. 8vo. cloth, 5*s.* 6*d.*

MR. SQUIRE.

THE PHARMACOPŒIA, (LONDON, EDINBURGH, AND DUBLIN,) arranged in a convenient TABULAR FORM, both to suit the Prescriber for comparison, and the Dispenser for compounding the formulæ; with Notes, Tests, and Tables. 8vo. cloth, 12*s.*

DR. SWAYNE.

OBSTETRIC APHORISMS FOR THE USE OF STUDENTS COMMENCING MIDWIFERY PRACTICE. With Engravings on Wood. Fcap. 8vo. cloth, 3*s.* 6*d.*

DR. STEGGALL.

STUDENTS' BOOKS FOR EXAMINATION.

I.

A MEDICAL MANUAL FOR APOTHECARIES' HALL AND OTHER MEDICAL BOARDS. Eleventh Edition. 12mo. cloth, 10*s*.

II.

A MANUAL FOR THE COLLEGE OF SURGEONS; intended for the Use of Candidates for Examination and Practitioners. Second Edition. 12mo. cloth, 10*s*.

III.

GREGORY'S CONSPECTUS MEDICINÆ THEORETICÆ. The First Part, containing the Original Text, with an Ordo Verborum, and Literal Translation. 12mo. cloth, 10*s*.

IV.

THE FIRST FOUR BOOKS OF CELSUS; containing the Text, Ordo Verborum, and Translation. Second Edition. 12mo. cloth, 8*s*.

V.

A TEXT-BOOK OF MATERIA-MEDICA AND THERAPEUTICS. 12mo. cloth, 7*s*.

VI.

FIRST LINES FOR CHEMISTS AND DRUGGISTS PREPARING FOR EXAMINATION AT THE PHARMACEUTICAL SOCIETY. Second Edition. 18mo. cloth, 3*s*. 6*d*.

MR. STOWE, M.R.C.S.

A TOXICOLOGICAL CHART, exhibiting at one view the Symptoms, Treatment, and Mode of Detecting the various Poisons, Mineral, Vegetable, and Animal. To which are added, concise Directions for the Treatment of Suspended Animation. Eleventh Edition. On Sheet, 2*s*.; mounted on Roller, 5*s*.

DR. ALFRED S. TAYLOR, F.R.S.

I.

A MANUAL OF MEDICAL JURISPRUDENCE. Fifth Edition. Fcap. 8vo. cloth, 12*s*. 6*d*.

II.

ON POISONS, in relation to MEDICAL JURISPRUDENCE AND MEDICINE. Fcap. 8vo. cloth, 12*s*. 6*d*.

DR. THEOPHILUS THOMPSON, F.R.S.

I.

CLINICAL LECTURES ON PULMONARY CONSUMPTION. With Plates. 8vo. cloth, 7*s*. 6*d*.

II.

LETTSOMIAN LECTURES ON PULMONARY CONSUMPTION; with Remarks on Microscopical Indications, and on Cocoa-nut Oil. Post 8vo., 2*s*. 6*d*.

MR. TAMPLIN, F.R.C.S.E.

LATERAL CURVATURE OF THE SPINE: its Causes, Nature, and Treatment. 8vo. cloth, 4*s*.

DR. THOMAS.

THE MODERN PRACTICE OF PHYSIC; exhibiting the Symptoms, Causes, Morbid Appearances, and Treatment of the Diseases of all Climates. Eleventh Edition. Revised by ALGERNON FRAMPTON, M.D. 2 vols. 8vo. cloth, 28*s*.

HENRY THOMPSON, M.B. LOND., F.R.C.S.

STRICTURE OF THE URETHRA; its Pathology and Treatment. The last Jacksonian Treatise of the Royal College of Surgeons. With Plates. 8vo. cloth, 10*s*.

DR. TILT.

I.

ON DISEASES OF WOMEN AND OVARIAN INFLAMMATION IN RELATION TO MORBID MENSTRUATION, STERILITY, PELVIC TUMOURS, AND AFFECTIONS OF THE WOMB. Second Edition. 8vo. cloth, 9*s*.

II.

THE CHANGE OF LIFE IN HEALTH AND DISEASE: a Practical Treatise on the Nervous and other Affections incidental to Women at the Decline of Life. Second Edition. 8vo. cloth, 6*s*.

MR. TOD, M.R.C.S.

A DISQUISITION ON CERTAIN PARTS AND PROPERTIES of the BLOOD. With Illustrative Woodcuts. 8vo., 10s. 6*d*.

DR. ROBERT B. TODD, F.R.S.

I.

CLINICAL LECTURES ON PARALYSIS, DISEASES OF THE BRAIN, and other AFFECTIONS of the NERVOUS SYSTEM. Second Edition. Foolscap 8vo. cloth, 6*s*.

II.

CLINICAL LECTURES ON CERTAIN DISEASES OF THE URINARY ORGANS, AND ON DROPSIES. Fcap. 8vo. cloth, 6*s*.

MR. SAMUEL TUKE.

DR. JACOBI ON THE CONSTRUCTION AND MANAGEMENT OF HOSPITALS FOR THE INSANE. Translated from the German. With Introductory Observations by the Editor. With Plates. 8vo. cloth, 9*s*.

DR. DANIEL H. TUKE.

THE PRIZE ESSAY ON THE PROGRESSIVE CHANGES

WHICH HAVE TAKEN PLACE, SINCE THE TIME OF PINEL, IN THE MORAL MANAGEMENT OF THE INSANE. 8vo. cloth, 2*s.* 6*d.*

DR. TURNBULL.

A PRACTICAL TREATISE ON DISORDERS OF THE STOMACH

with FERMENTATION; and on the Causes and Treatment of Indigestion, &c. 8vo. cloth, 6*s.*

DR. UNDERWOOD.

TREATISE ON THE DISEASES OF CHILDREN.

Tenth Edition, with Additions and Corrections by HENRY DAVIES, M.D. 8vo. cloth, 15*s.*

VESTIGES OF THE NATURAL HISTORY OF CREATION.

Tenth Edition. Illustrated with 100 Engravings on Wood. 8vo. cloth, 12*s.* 6*d.*

BY THE SAME AUTHOR.

EXPLANATIONS: A SEQUEL TO "VESTIGES."

Second Edition. Post 8vo. cloth, 5*s.*

DR. UNGER.

BOTANICAL LETTERS.

Translated by Dr. B. PAUL. Numerous Woodcuts. Post 8vo., 5*s.*

DR. VAN OVEN.

ON THE DECLINE OF LIFE IN HEALTH AND DISEASE;

being an Attempt to Investigate the Causes of LONGEVITY, and the Best Means of Attaining a Healthful Old Age. 8vo. cloth, 10*s.* 6*d.*

MR. WADE, F.R.C.S.

STRICTURE OF THE URETHRA; its Complications and Effects.

With Practical Observations on its Causes, Symptoms, and Treatment; and on a Safe and Efficient Mode of Treating its more Intractable Forms. 8vo. cloth, 5*s.*

DR. WAGSTAFF.

ON DISEASES OF THE MUCOUS MEMBRANE OF THE THROAT, and their Treatment by Topical Medication. Post 8vo. cloth, 4*s.* 6*d.*

MR. HAYNES WALTON, F.R.C.S.

OPERATIVE OPHTHALMIC SURGERY. With Engravings on Wood. 8vo. cloth, 18*s.*

DR. WARDROP.

ON DISEASES OF THE HEART. 8vo. cloth, 12*s.*

DR. EBEN. WATSON, A.M.

ON THE TOPICAL MEDICATION OF THE LARYNX IN CERTAIN DISEASES OF THE RESPIRATORY AND VOCAL ORGANS. 8vo. cloth, 5*s.*

DR. WEBER.

A CLINICAL HAND-BOOK OF AUSCULTATION AND PERCUSSION. Translated by JOHN COCKLE, M.D. 5*s.*

DR. WEGG.

OBSERVATIONS RELATING TO THE SCIENCE AND ART OF MEDICINE. 8vo. cloth, 8*s.*

MR. T. SPENCER WELLS, F.R.C.S.

PRACTICAL OBSERVATIONS ON GOUT AND ITS COMPLICATIONS, and on the Treatment of Joints Stiffened by Gouty Deposits. Foolscap 8vo. cloth, 5*s.*

DR. WEST.

LECTURES ON THE DISEASES OF WOMEN. 8vo. cloth, 10*s.* 6*d.*

MR. WHEELER.

HAND-BOOK OF ANATOMY FOR STUDENTS OF THE FINE ARTS. New Edition, with Engravings on Wood. Fcap. 8vo., 2*s.* 6*d.*

DR. WHITEHEAD, F.R.C.S.

I.

ON THE TRANSMISSION FROM PARENT TO OFFSPRING OF SOME FORMS OF DISEASE, AND OF MORBID TAINTS AND TENDENCIES. 8vo. cloth, 10*s.* 6*d.*

II.

THE CAUSES AND TREATMENT OF ABORTION AND STERILITY: being the result of an extended Practical Inquiry into the Physiological and Morbid Conditions of the Uterus, with reference especially to Leucorrhœal Affections, and the Diseases of Menstruation. 8vo. cloth, 12*s.*

MR. WILLIAM R. WILDE, F.R.C.S.

AURAL SURGERY, AND THE NATURE AND TREATMENT OF DISEASES OF THE EAR. 8vo. cloth, 12*s.* 6*d.*

DR. WILLIAMS, F.R.S.

PRINCIPLES OF MEDICINE: comprehending General Pathology and Therapeutics. The Third Edition. 8vo. cloth, 15*s.*

DR. JOHN CALTHROP WILLIAMS.

PRACTICAL OBSERVATIONS ON NERVOUS AND SYMPATHETIC PALPITATION OF THE HEART, as well as on Palpitation the Result of Organic Disease. Second Edition, 8vo. cloth, 6*s.*

DR. JOSEPH WILLIAMS.

INSANITY: its Causes, Prevention, and Cure; including Apoplexy, Epilepsy, and Congestion of the Brain. Second Edition. Post 8vo. cloth, 10*s.* 6*d.*

DR. J. HUME WILLIAMS.

UNSOUNDNESS OF MIND, IN ITS MEDICAL AND LEGAL CONSIDERATIONS. 8vo. cloth, 7*s.* 6*d.*

DR. JAMES WILSON.

THE PRINCIPLES AND PRACTICE OF THE WATER CURE, and HOUSEHOLD MEDICAL SCIENCE, in Conversations on Physiology, on Pathology, or the Nature of Disease, and on Digestion, Nutrition, Regimen, and Diet. Second Edition. 8vo. cloth, 7*s.*

DR. HENRY G. WRIGHT.

HEADACHES; their Causes and their Cure. Second Edition. Fcap. 8vo., 2*s.* 6*d.*

MR. ERASMUS WILSON, F.R.S.

I.

THE ANATOMIST'S VADE-MECUM: A SYSTEM OF HUMAN ANATOMY. With numerous Illustrations on Wood. Sixth Edition. Foolscap 8vo. cloth, 12*s.* 6*d.*

II.

DISEASES OF THE SKIN: A Practical and Theoretical Treatise on the DIAGNOSIS, PATHOLOGY, and TREATMENT OF CUTANEOUS DISEASES. Fourth Edition. 8vo. cloth, 16*s.*

THE SAME WORK; illustrated with finely executed Engravings on Steel, accurately coloured. 8vo. cloth, 34*s.*

III.

HEALTHY SKIN: A Treatise on the Management of the Skin and Hair in relation to Health. Fifth Edition. Foolscap 8vo. 2*s.* 6*d.*

IV.

PORTRAITS OF DISEASES OF THE SKIN. Folio. Fasciculi I. to XII., completing the Work. 20*s.* each.

V.

ON SYPHILIS, CONSTITUTIONAL AND HEREDITARY; AND ON SYPHILITIC ERUPTIONS. With Four Coloured Plates. 8vo. cloth, 16*s.*

DR. FORBES WINSLOW, D.C.L. OXON.

I.

LETTSOMIAN LECTURES ON INSANITY. 8vo. cloth, 5*s.*

II.

A SYNOPSIS OF THE LAW OF LUNACY; as far as it relates to the Organization and Management of Private Asylums for the Care and Treatment of the Insane. In the form of a Chart, varnished, mounted on canvas and rollers, price 6*s.*

III.

ON THE CAUSES, SYMPTOMS, DIAGNOSIS, AND TREATMENT OF SOFTENING OF THE BRAIN, AND OTHER OBSCURE DISEASES OF THE ENCEPHALON. 8vo. With Plates. *In the Press.*

DR. G. C. WITTSTEIN.

PRACTICAL PHARMACEUTICAL CHEMISTRY: An Explanation of Chemical and Pharmaceutical Processes, with the Methods of Testing the Purity of the Preparations, deduced from Original Experiments. Translated from the Second German Edition, by STEPHEN DARBY. 18mo. cloth, 6*s.*

MR. YEARSLEY.

DEAFNESS PRACTICALLY ILLUSTRATED; being an Exposition of Original Views as to the Causes and Treatment of Diseases of the Ear. Fourth Edition. Foolscap 8vo., 2*s.* 6*d.*

II.

ON THE ENLARGED TONSIL AND ELONGATED UVULA, and other Morbid Conditions of the Throat. Sixth Edition. 8vo. cloth, 5*s.*

Printed by W. BLANCHARD & SONS, 62, Millbank Street, Westminster.